EXAMINING BLUE-COLLAR WORKER LEADERSHIP BEHAVIOR AND WORKPLACE ENGAGEMENT

by

Timothy R. Muckey

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Abstract

The specific problem in this study is despite the extensive research into leadership and engagement, little knowledge about the relationship between leadership and workplace engagement among HVACR Heating Ventilation Air-conditioning and Refrigeration service technicians exists. The purpose of the quantitative, correlational research study was to evaluate if a relationship existed between perceived leadership capabilities and workplace engagement among blue-collar HVACR workers. The quantitative correlation study included two survey, tools the Leadership Practice inventory (LPI) and the Utrecht Work Engagement Scale UWES. The combination of the two surveys into a single Internet survey facilitated the collection of study data. The study's population was 213 HVACR service technicians in California. The findings of this study support that there exists a relationship between perceived leadership ability and workplace engagement. The study further provides supportive evidence that some aspects of preceded leadership ability could predict levels of for workplace engagement. The implications of this study are that if organizations invest in developing the leadership potential of blue-collar employees a return on investment in terms of workplace engagement, increased performance, increased profitability, and a new pool of future leaders is possible. The contribution of this study to leadership is the validation of a link between leadership, engagement and organization performance. The recommendations of this study are the creation of leadership training and development programs in journeyman, apprenticeship and HVACR vocational training programs.

Dedication

I would like to dedicate this dissertation to my wife and children. Without the help and support of my family, the lifelong journey into enlightenment would yield little meaning. My wife Arlynn brings immeasurable happiness to all the days of my life. My children Danny, Jonathan, and Alexandra fill my life with wonderment and joy. Through my family, I have learned the true value and meaning of life. I would further like to dedicate this dissertation to all those who have contributed to my personal and professional development over the years too numerous to mention by name. The blessings that life bestows upon a person is less the result of individual effort and more the result of the kindness, compassion, love, and will of those who graced us with their blessings. I am who I am because of these many blessings. For this, I am eternally grateful and look forward to passing the fruit of these blessings on to others whose paths I cross.

Acknowledgments

The journey of life provides each traveler many opportunities and obstacles along their path. Each of these opportunities and obstacles are in fact blessings independent of our individual perceptions for without these blessings I could not be the person I am or will be. For this reason, I must acknowledge all those who have graced and challenged my life path. From the customers whose dishes I washed as a young man at Shirley's Cafe in a small Nebraska town, to Lyndsey Miller a University of Phoenix counselor who helped guide me to the doctoral journey and all those who participated in this study. From those who challenged my goals and objectives to the obstacles placed in the path of my existence all have led me to this place and this time for which I remain thankful. A special acknowledgement to my doctors who helped me through life's unexpected challenges without whose help and compassion this work would not be possible. I give a heartfelt thank you to my fellow classmates, friends, associates, and supporters who have made possible my personal and professional success. To my mentor Pam Gordon and my committee members Debra Maddox and Nancy Wood I hope that the path before me honors the blessings you have bestowed upon me. Individuals achieve nothing without the help and support of those upon whose shoulders they stand. I see this not as the end of a journey rather the continuation of a life journey in which the best of times and the greatest knowledge yet remain to be discovered. It is my hope that my journey will do honor to those who I have met and will meet along the way and when my time is done on this earth the world is a little better for my having traveled life's road. To all those that have preceded and will follow I wish peace, good will, and happy trails.

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Chapter 1: Introduction

Between 1946 and 1964, more than 4 million American babies were born each year (Woods & Withiam, 1992). Today that translates into more than 75 million workers or approximately one third of America's population at or approaching retirement (Woods & Withiam, 1992). The aging American workforce leaves many American organizations at risk of not having the capability to meet the needs of the organization's customers and stakeholders (Glover, Clopton, Lewis, & Colker, 2007). As baby boomer employees, leaders, and managers leave the workforce, the resulting leadership gaps could create a severe shortage of leaders in many organizations. The gap in leadership makes the attraction, retention, and development of skilled employees critical to the success of many American organizations. Changes in technology and the demands imposed by global economics often expose employees to a work environment that is in a constant state of changing. In many organizations a high rate of change is often the result of advancements in technology, innovations in communication, the globalization of the world's economy, the relaxation of national borders, and the development of transnational and multinational organizations (Fowlie, 2006). As organizations struggle through the change process, many of these organizations fail to address fully the human side of change. The intensity of change in American organizations places many in the workforce in an environment that requires employees to demonstrate leadership through change. Results from a 2008 survey conducted by IBM, Making Change Work, of 1,500 managers in 15 countries worldwide documented that 60% of all change management programs necessitated by new technology rollout or internal restructuring failed to meet business objectives (Jorgensen, 2008). The IBM study provided supportive documentation that the development of employee skills, better communication, and employee involvement were critical to the success of change

(Jorgensen, 2008). Those closest to the change process are often the organization's nonexempt employees. Change often requires leadership to secure success. The development of change leadership attributes and skills in employees is critical to the success of organizational change (Galpin, 1996). In the modern workplace, employees with leadership abilities help secure successful change. The aging workforce, the pace of change, and the globalization of many organizations present a need for organizations to identify, train, and develop employees with leadership ability if these organizations are to remain competitive in the global marketplace (Noe, 2008). Many organizations do not have the skilled employees necessary to meet expected industry needs (Noe, 2008). The leadership of 85% of Fortune 500 companies believes they do not have employees with the leadership skills necessary to compete effectively in the global economy (Noe, 2008). A lack of leadership confidence by Fortune 500 companies emphasizes the importance of identifying and developing employee leadership abilities. The focus on leadership and economic success by Fortune 500 companies establishes a link between employee leadership ability and organizational success. In many organizations, employees represent the organization's most significant asset. Despite the recognition by organizational leaders of employees as assets, many managers consider and manage employees as costs (Bassi & McMurrer, 2007). Managing employees as costs and not as assets could be a very dangerous and destructive approach to leadership. In some of these organizations people are the only source of a long-term competitive advantage (Bassi & McMurrer, 2007). The employees as costs approach to employee management could prevent the attraction and retention of qualified employees and reduce an organization's competitive advantage in the marketplace. Because of research conducted in the last decade into human capital management (HCM), many researchers consider employee engagement a key contributor to organizational performance (Bassi &

McMurrer, 2007). By definition, engaged employees are employees fully involved in and enthusiastic about his or her work (Seijts & Crim, 2006). Employee engagement is a key component in employee motivation, the creation of a heightened personal connection between the employee and the organization, and achieving higher levels of productivity in employees (Gubman, 2004). Engaged employees are less likely to seek alternative sources of employment (Gubman, 2004). Although there exists a great deal of research on engagement in the educational community, very little research has taken place in the work environment (Martin, 2006). Research conducted on motivation and engagements in the workplace remains diffused and fragmented (Martin, 2006). Some reasons for the diffused and fragmented research into engagement is the result of the complexities of workplace behaviors and the mistaken belief by many employers that motivation and engagement in the workplace is a relatively simple and stable construct (Martin, 2006). One area that has received very little attention is the effect of perceived leadership ability on employee engagement. The IBM study mentioned in the preceding paragraphs suggested that empowering employee's ability to change was a key to successful change (Jorgensen, 2008). Results from the IBM study illustrated that successful change requires more than just technology. Successful change requires good leadership at all levels of the organization and an engaged workforce. Many organizations offer their managers and leaders leadership and team development training. Despite the need for leaders, most organizations do not offer leadership-training programs to the general workforce (Burrell, 2007).

Many consider leadership a relationship in which one person influences the thoughts and actions of another (Schira, 2007). Some common characteristics of leadership include effective communication, motivation, openness, vision, passion, and risk-taking (Schira, 2007). In-depth studies into leadership have found a small number of personal characteristics of leadership

referred to as life giving forces (as cited in Fullan, 2003). Leaders often develop a sense of meaning in life and a purpose beyond themselves (Fullan, 2003). Leadership requires the virtues of self-control, humility, persistence, inquisitiveness, empathy, emotional maturity, bravery, modesty, and an intense professional will to access these life-giving forces (Fullan, 2003). These characteristics of leadership align with the characteristics of engaged employees. The blue-collar work environment has changed dramatically in the last few years because of increased global competition. In times of dynamic, economic change, organizations seek to do more with less. To accomplish more with less organization leaders need engaged employees. One way to achieve an engaged workforce could be through the development of leadership characteristics among blue-collar workers. Providing leadership and team building learning to the general workforce may lead to a more motivated and engaged workforce.

Chapter 1 presents the foundations of the study. In Chapter 1, an exploration of the study's background, problem statement, and study purpose takes place. In addition, Chapter 1 includes information on the significance of the study, the nature of the study, the significant hypotheses, and research questions. Chapter 1 will conclude with a presentation of the theoretical framework of the study, a review of the definitions of the terms used in the study, a discussion of the study's assumptions, scope, limitations, delimitations, and a summary.

Background of the Problem

Leadership is not just for those designated by organizations as leaders or managers or simply a position or place in an organization or a community (Kouzes & Posner, 1995). Independent of a person's position within an organization or society, leadership is an essential property of personal and professional success (Smith, 2009). In the global business environment leadership is a collection of diverse ideas driven to form a rainbow coalition of personal

histories, perceptions, strengths, weaknesses, and personalities in which leadership is the responsibility of each employee (Kouzes & Posner, 1995). Each person within an organization is a leader who provides a valuable service that helps the organization achieve goals and objectives (Smith, 2009). According to Kleiman (2008), successful organizational leaders implement proactive strategies to develop future organizational leaders. Leadership experts suggested that through the mastery of leadership skills a person becomes an effective leader, receives recognition, receives greater challenges, and receives opportunities to move into areas of increased responsibility (Boone & Peborde, 2008).

In 1919, during an Industrial Workers of the World (IWW) union march, when asked by law enforcement "who are your leaders?" the crowd responded, "We are all leaders" (Staughton, 1996, p. 7). In 1932, when about 3,000 unemployed IWW workers attempted to march on the Ford plant, a police officer shouted to the crowd "who are your leaders?" the response from the crowd was "we are all leaders" (Staughton, 1996, p. 7). When people perceive themselves as leaders their perceptions of whom they are, what they think of themselves, how they act and interact could be subject to a dramatic change. The changes associated with leadership could yield many positive results for organizations and society. Taking on the responsibility of leadership can also lead to changes that challenge the status quo. How a person interacts with the world around him or her is a reflection of his or her level of personal satisfaction (Neck & Manz, 2007). A person's level of self-efficacy is directly proportionate to a person's performance (Neck & Manz, 2007). The identification and development of leadership abilities in employees could improve employee self-efficacy and lead to improvements in organizational performance and efficiency.

In the modern workplace the difficulties associated with one person being an expert on all aspects of the organization's needs are leading many organizations to place more emphasis on distributed team-based leadership (Pearce, 2004). Researchers have found evidences that teams dominated by a single leader do not perform as well as teams that demonstrate distributive or shared leadership practices (Pearce, 2004). The development of transformational leadership practices within a team can lead to engagement, and meeting team member high-order needs (Pearce, 2004). Lok and Crawford (2004) found that "Transformational leadership attributes, such as empowerment and clear vision, are often seen as important elements for employee job satisfaction and commitment" (p. 324). Conditions and behaviors in the workplace that contribute to workplace engagement have both direct and indirect alignment with transformational leadership (Macey & Schneider, 2008). The literature on transformational leadership supports a close relationship between engagement and behaviors with conventional conceptualizations of engagement including passion, identification with the organization, independent thought, and action, developing new ideas, and challenging convention when that convention is no longer relevant (Macey & Schneider, 2008).

Under transformational leadership conditions, people will often engage in behaviors not in their personal best interest (Macey & Schneider, 2008). Researchers identified behavior not in a person's best interest as self-sacrifice (Macey & Schneider, 2008). In an environment in which employees demonstrate self-sacrifice, positive motivational attributes are developed, transformational leadership attributes are encouraged, and employees experience high levels of engagement (Macey & Schneider, 2008). Researchers therefore hypothesized that "job design attributes would directly affect state engagement; the presence of a transformational leader would directly affect state engagement and the presence of the transformational leader would

directly affect trust levels and, thus indirectly affect behavioral engagement" (Macey & Schneider, 2008, p. 25).

Employee engagement has three interrelated elements: cognitive, emotional, and behavioral (Konrad, 2006). The cognitive element of engagement represents the employee's perceptions about his or her organization, the organization's needs, and their work conditions. Many of the emotional elements of engagement reflect what employees think about their peers, subordinates, and leaders. The behavioral element of engagement is the value-added to the organization. Engaged employees often bring extra time, increased brainpower, and energy to their tasks and to their organization (Konrad, 2006). A Gallop Organization survey of 7,939 business units in 36 companies provided documentary support that employee engagement improves employee performance, customer satisfaction, profitability, and productivity, and reduces employee turnover (Konrad, 2006).

HVACR Industry

For many organizations, the HVACR (Heating, Ventilation, Air Conditioning, and Refrigeration) industry represents an important and often indispensable link to organizational success. HVACR industry representatives provide the heating, ventilation, air conditioning, refrigeration, and indoor air quality needs of businesses, industries, and homes throughout the world. From the food people consume, the products people buy, the offices people work in to the homes people live in, HVACR is an important part of human survival, comfort, satisfaction, and economic security. HVACR energy costs in commercial buildings account for 40% to 60% of an organization's energy costs (U.S. Department of Energy, 2010). Over 35% of home power use in American homes is attributable to HVACR electrical usage (U.S. Department of Energy, 2010). In 2006, residential and commercial properties spent approximately $150 billion on HVACR

energy use (U.S. Department of Energy, 2010). These numbers reflect the dependence of businesses on the support of the HVACR industry representatives to service, maintain, install, and reduce the operating costs of an organization's HVACR equipment. HVACR industry businesses employ more than 308,000 service technicians (U.S. Bureau of Labor Statistics, 2010). The HVACR technician population in California, the location of the study, is approximately 17,000 (SMACNA, 2009). Each HVACR worker must maintain customer HVACR equipment in a manner that reduces product failures, increases product life, and reduces product operational costs.

The Bureau of Labor Statistics projects HVACR industry employment to increase by 28% or 86,000 in the next decade (U.S. Bureau of Labor Statistics, 2010). Above average growth, as defined by the U.S. Bureau of Labor Statistics (2010), equals any growth exceeding 20%. HVACR equipment average life expectancy in the home market is between 10 and 15 years (U.S. Bureau of Labor Statistics, 2010). The large number of homes constructed in the last few years will enter the replacement timeframe by 2018 opening up a large demand for new products (U.S. Bureau of Labor Statistics, 2010). A growing industry focus on indoor air quality is providing new opportunities for industry growth (U.S. Bureau of Labor Statistics, 2010). An increased demand of HVACR equipment in new or expanding businesses will increase the demand for qualified service technicians (U.S. Bureau of Labor Statistics, 2010). A national drive to reduce energy consumption, the focus on green products, changes in tax regulations, and green incentive programs are driving product sales and the need for qualified people for decades to come (U.S. Bureau of Labor Statistics, 2010). The global emphasis on energy management is driving the replacement of older less efficient HVACR products and control systems in the residential, commercial, and industrial markets (U.S. Bureau of Labor Statistics, 2010). Labor

department projections indicate that the drive for energy efficiency will produce financial growth in the HVACR markets for many years to come (U.S. Bureau of Labor Statistics, 2010).

Statement of the Problem

Engagement is a critical component of an individual's performance and achievements (Martin, 2006). Understanding the role leadership plays in workplace engagement is critical to the engagement process (Towers Perrin, 2008). Leadership promotes performance and effectiveness in the team, group, and organizational environment (Kaiser & Hogan, 2004). Leadership ability may be the most important issue in the field of human science (Kaiser & Hogan, 2004). Employees with leadership ability often have an enhanced sense of well-being (Kaiser, & Hogan, 2004). In the study, the general problem was many HVACR contractors encounter shortages of qualified technicians to meet the needs of their customers (Hall, 2007). The Bureau of Labor Statistics estimated that there are 308,000 HVACR service technicians in the United States (U.S. Bureau of Labor Statistics, 2010). Estimates place the population of HVACR in California, the location of the study, at 17,000 (SMACNA. 2009). Estimates from the U.S. Bureau of Labor Statistics project a 28% increase in demand for qualified technicians by 2018 (U.S. Bureau of Labor Statistics, 2010). Researchers at the Bureau of Labor Statistics suggested that the large technician demands reflected a widespread dependence on energy efficient climate-control system throughout the nation (U.S. Bureau of Labor Statistics, 2010). According to data from the U.S. Bureau of Labor Statistics, many organizations have experienced extreme difficulty in attracting and retaining qualified technicians because of the retirement of highly skilled technicians and the fast growing demand for qualified technicians (U.S. Bureau of Labor Statistics, 2010).

The shortage of qualified service technicians requires many organizations to focus their attention on attracting and retaining high performing, highly qualified technicians with high levels of productivity. Workplace engagement and higher levels of workplace performance and productivity appear linked. Engagement research conducted by Bassi and McMurrer (2007) quantified that 38% of employees fall into two categories, full or partial disengagement in the workplace, which represents a 30% decrease in organizational income as compared to engaged employees (Bassi & McMurrer, 2007). HVACR schools provide technicians the fundamental skills necessary to service and repair HVACR equipment. The HVACR technician develops and refines these skills throughout his or her career to meet the demands placed on him or her by the evolving complexities of the HVACR industry.

An element of success many schools and organizations fail to develop in technicians is their leadership skills. Leadership skills could help HVACR technicians lead with integrity, establish greater trust with employees and customers, and maintain an open mind to the changing face of the HVACR industry. The specific problem was that despite the extensive research into leadership and engagement, little knowledge about the relationship between leadership and workplace engagement among HVACR service technicians exists. A lack of knowledge into the relationship between leadership and engagement among HVACR leaders and managers may prevent organizations from meeting the demands of their customers and establish or maintain a leadership position in the HVACR industry. The quantitative correlational study provides researchers data on the relationship between the perceptions of blue-collar employee leadership ability and employee workplace engagement. A survey of HVACR industry service technicians was included in the study to determine if a relationship existed between perceived leadership ability and work engagement.

Two hundred and thirteen HVACR service technicians completed the study survey tools. The survey instrument included the Leadership Practices Inventory (LPI) and Uretecht Work Engagement Scale questionnaires (UWES) tools. Study participants included HVACR technicians from the Refrigeration Service Engineers Society (RSES), unions, and contractors in California. Data collected in the study may be useful in determining if leadership training programs or employee evaluation systems could be of value in increasing an organization's productivity and performance. Data from the study can provide organizational leaders with information regarding the importance of providing the general workforce with leadership training and provide opportunities to enhance workforce engagement and be more competitive in the global marketplace.

Purpose of the Study

The purpose of the quantitative, correlational research study was to evaluate if a relationship existed between perceived leadership capabilities and workplace engagement among blue-collar HVACR workers in California. In this study, the research method used to identify the existence of a relationship between perceived leadership ability and workplace engagement was quantitative, and the design was correlational. Study quantitative analysis incorporates the LPI and the UWES assessment tools. The independent variables for the study presented through the LPI included modeling the way score (MTW), inspiring a shared vision score (ISV), challenging the process score (CTP), enabling others to act score (EOA), and encouraging the heart score (ETH). The dependent variable was workplace engagement (WE) presented through the UWES tool. For this study, HVACR service technicians working in California were the study's population. The study took place in California. Results of the study contribute to the knowledge on workplace engagement and may provide business leaders with information to help them

determine if leadership-training programs for their blue-collar workers are beneficial. Study data could prove helpful to blue-collar workers in identifying possible opportunities for career advancement.

Significance of the Study

The business community connectivity requires increasing information technology (IT) network speeds (Stan, 1998). High-speed IT networks provide opportunities for businesses to manage time restrictions, conflate software, and improve temporality (Martin, 2004). With high-speed technology comes the expectation that technology workers will become more productive and efficient (Martin, 2004). To meet productivity and efficiency expectation requires leadership and commitment from those affected by these expectations (Galpin, 1996). The manner in which organizations change and develop influences the behaviors and actions of employees, leaders, managers, owners, and society at large (Bernard, 2004). To minimize the social fragmentation and exclusions, and the breakdown of the social environment, those leading change must act in the broader interests for stakeholders, employees, shareholders, leaders, and the wider community (Bernard, 2004). Each person touched by organizational change should share in the commitment to leadership through change. Change often challenges existing beliefs, behaviors, and expectations of those affected by the change process (Bernard, 2004). Successful change requires engaged employees committed to changing their personal and professional behavior (Bernard, 2004). Employing the right people with the right skills is necessary to meeting the challenge imposed by an ever-changing global economy.

The significance of the study was in the development of a greater understanding of the relationship between perceived leadership ability and employee engagement. Knowledge gained from the study could provide organizational leaders and researchers help in acquiring, retaining,

and developing employees with the skills necessary to increase organizational performance and efficiency. In a successful business, employee leadership and engagement can be the key to productivity and efficiency. To achieve effective empowerment requires members of an organization to change their perceptions of leadership (Bernard, 2004). A successful organization needs to maximize the participation and involvement of each employee, empower each employee, and facilitate group decision making (Bernard, 2004). The results of the study may contribute to the effectiveness of leaders and researchers by increasing their knowledge concerning employee commitment and engagement and helping employers identify employees who could help lead the organization to greater productivity and performance.

Throughout most of America's history businesses have had access to nearly unlimited natural resources. The cowboy mentality dominated the American business culture for decades (Nordhaus, 1974). A cowboy economy is an economy that places little or no resource constraints on growth (Nordhaus, 1974). In the twenty-first century, the U.S. cowboy economy experienced a dramatic decline in the availability of resources. A reduction in the availability of natural resources could threaten America's standing as a global economic superpower. Energy costs are putting a strain on the American economy. High-energy costs often result in increased levels of unemployment and much of the money spent on the necessary resources to sustain the American economy supports the economies of other nations (Margonelli, 2009). Energy supply and demand plays a vital role in the security and economy of the United States (U. S. Department of Energy, 2010). "The United States spends more than 500 billion dollars annually on energy" (U. S. Department of Energy, 2010). U. S. companies are experiencing two additional crises: an aging workforce and a shrinking pool of younger talent (Nguyen, 2008). The U. S. workforce consists primarily of baby boomers, who are at the onset of retirement age, and the prospect of

replacing the aging workforce does not look promising (Nguyen, 2008). According to the U. S. Department of Labor data, 40% of all U. S. workers are 55 or older (Nguyen, 2008).

Retaining a skilled workforce is critical to America's economic growth (Nguyen, 2008). Because of the aging workforce and an inadequate supply of younger replacement workers, there exists a labor shortage in the United States (Nguyen, 2008). The data indicates that to remain competitive organizations will need to do more with less. According to data from a study conducted of 36,000 employees of 41 of the world's largest companies, engaged employees are more productive, more efficient, hardworking, and create more satisfied customers (Towers Perrin, 2007). In a time of increased demand and cost for energy, coupled with a dwindling blue-collar knowledge workforce, organizations need to develop long-term workforce solutions for managing these demands and costs. Little research exists on the relationship between a person's leadership abilities and workplace engagement. The study helps fill the gaps in the literature and adds to the knowledge of engagement and leadership through an analysis of the link between these two properties. Study data could help organizations develop long-term knowledge worker solutions.

Significance of Leadership

Although reducing the term leadership to a single definition is unlikely, many would agree on a few common attributes of leadership. The term leadership originated from common vocabulary and later applied to the scientific discipline with no alterations to take into consideration the needs of the scientific disciplines (Yukl, 2006). Failure to define adequately the term leadership has created ambiguity of meaning (Yukl, 2006). Terms like power, authority, management administration, control, and supervision simply add to the confusion over the meaning of leadership (Yukl, 2006). Warren Bates, a noted American scholar, noted:

Always, it seems, the concept of leadership eludes us or turns up in another form to taunt us again with its slipperiness and complexity. So we have invented an endless proliferation of terms to deal with it . . . and still the concept is not sufficiently defined (as cited in Yukl, 2006, p. 2).

Because of the difficulty in defining leadership there exists an almost inexhaustible supply of definitions available to a researcher (Yukl, 2006). Despite the abundance of definitions, most of the definitions of leadership reflect the assumption that leadership involves a process whereby one person intentionally influences another person to guide, structure, and enable activities and relationships in a group or organization (Yukl, 2006).

In the study, the following definition of leadership was used: Leadership is the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives (Yukl, 2006, p. 8). The ambiguity of the term leadership, has kept many philosophers, social scientists, scholars from many disciplines, and business practitioners bewildered throughout the millennia. Despite this bewilderment, some key elements of leadership exist that many can agree upon (Nahavandi, 2006). Some of these key elements of leadership include leadership is a group phenomenon, leadership is goal directed, and the presence of a leader indicates some form of hierarchy within a group (Nahavandi, 2006). Keeping the key elements of leadership in mind some of the key characteristics of a team require review. Five of the key characteristics of a team include the following: (a) A team exists to achieve a shared goal, (b) team members are interdependent regarding some common goal, (c) teams are bound and stable over time, (d) team members have the authority to manage their own work and internal processes, and (e) a team operates in a social system context (Thompson, 2008).

These key elements and characteristics share many commonalities. Both organizations and teams often need leaders to become successful. Successful leaders need knowledge, experience, practice, and to learn from their mistakes (Thompson, 2008). These requirements would suggest that becoming an effective leader takes time. The identification of leadership abilities early in an employee's career could provide organizations a competitive advantage. Empowerment is sharing power with subordinates with the goal of increased power and autonomy with all employees (Thompson, 2008). With power comes personal responsibility. Personal responsibility requires personal leadership (Hannum, Martineau, & Reinelt, 2007). For Leadership to be personal requires leadership skills (Hannum et al., 2007). A critical ingredient to successful personal change is leadership (Hannum et al., 2007). Change requires the power of leadership (Hesselbein & Goldsmith, 2006). In 1963, Martin Luther King Jr. stated, "the ultimate measure of a man is not where he stands in moments of comfort and convenience, but where he stands at times of challenge and controversy" (King, 1981. p. 35). In the modern work culture, King's measure applies to leaders independent of the leader's biology. Developing leaders with the courage and commitment necessary to lead in the face of challenge and controversy requires personal commitment to one's followers. The development of this type of leader requires time and commitment to leadership at all levels of the organization. The key to successful leadership and change may find a link to the properties of workplace engagement and personal character.

Employee engagement can have a significant impact on organizational performance (Thompson, 2008). A connection between performance and engagement supports an organizations leadership seeking out ways to use engagement to support long-term organizational success. According to Maslow, in his theory of human motivation, each person has at least five basic needs (Maslow, 1943). These five basic needs include physiological,

safety, love, esteem, and self-actualization (Maslow, 1943). When one asks, "What does an employee need?" one must deal with the very essence of Maslow's hierarchy of needs. It is important for managers and organizational leaders to understand that engaged employees often think very positively about their work, believe they are empowered by their work, are motivated to act, and are looking to grow and develop their careers (Towers Perrin, 2008).

Many of the attributes of engagement coincide to Maslow's hierarchy of needs. Many successful leaders share some common traits that bring light to the study of engagement. Some of these traits include self-confidence, energy, charisma, communication skills, and a drive to succeed (Thompson, 2008). Charismatic leaders are often very self-confident in their own abilities and the correctness of the moral righteousness of their beliefs (Thompson, 2008). Mahatma Gandhi transformed India through his peaceful charismatic leadership style (Murphey, 2009). Martin Luther King Jr. changed America through his charismatic leadership style during times of heightened levels of racial tensions and changed the social, political, and economic face of America (Brinkley, 2007). Martin Luther King Jr. developed his leadership skills and abilities through a lifetime of struggles, disappointments, and failures to become an inspirational leader through social, political, and economic change (Kenrick, Neuberg, & Cialdini, 2007). In King's 1963 "I Have a Dream" speech at the Lincoln Memorial in Washington D.C., King inspired generations of people to be leaders of social change (Kenrick et al., 2007). Martin Luther King Jr. built his life around the teachings of leaders like Mahatma Gandhi, who optimized moral, ethical, and socially responsible behavior (Kenrick et al., 2007). Mahatma Gandhi labored selflessly throughout his life to make the world a better place for each person in the world (Murphey, 2009). Gandhi preached peaceful change and made the ultimate sacrifice for his

beliefs. In 1948, Gandhi died at the hands of his detractors because of his efforts to end the Hindu-Muslim violence in India (Murphey, 2009).

A person only needs to look to the examples of Gandhi and King to see the significance of leadership and the power of a single voice in changing the course of human events. Gandhi and King share with every other person who walks the planet the same human brotherhood and sisterhood. What made these two men extraordinary was their commitment to leadership that enabled them to grow and prosper as leaders. A review of the literature provides support that each person could be a leader and that engaged leaders have a high likelihood of becoming successful leaders. The literature provides supportive evidence that engaged employees are more productive and efficient (Towers Perrin, 2007). A review of the literature reveals data that supports the argument that humans have a hierarchy of needs that drives human action (Bowditch & Buono, 2005). The literature provides data that supports the view that leadership is the most important element in every social setting so much so that "All known societies have leaders as part of their social organizations" (Kenrick et al., 2007, p. 439). In a review of the literature, support for the need for organizations to focus on collective leadership to remain competitive in the highly competitive marketplace reveals substantiation (Scharmer, 2009). Including collective leadership practices in an organization could be an essential way in which organizations could meet future leadership needs (Scharmer, 2009). The literature provides support for the perception that leadership is about expressing one's inner voice and that each person's voice should be heard (Hesselbein & Goldsmith, 2006).

Significance of the Study to Leadership

One common definition of leadership is "Guiding and directing on a course, and serving as a channel" (Nahavandi, 2009, p. 3). These definitions suggest that a leader is simply someone

with commanding authority or influence (Nahavandi, 2009). The reality for some is that leadership is a simple "matter of how to be, not how to do" (Hesselbein & Goldsmith, 200, p. xii). Leadership is for some a behavior directed to those who share a common goal or objective (Yukl, 2010). Three commonly accepted attributes of leadership include leadership as a group phenomenon, leadership is goal directed, and the presence of leadership indicates some level of hierarchy within the group (Nahavandi, 2009). Using these three common attributes of leadership, one can define a leader as "any person who influences individuals and groups within an organization, helps them in establishing goals, and guides them toward the achievement of those goals, thereby allowing them to be effective " (Nahavandi, 2009, p. 4). Implications of the definition include the viewpoint that anyone can be a leader if he or she accepts the leadership challenge. For much of human history a person's station or place in the world was a reflection of his or her lineage (Drucker, 2005). Today most people can choose the direction of their lives independent of family lineage (Drucker, 2005). The power to choose requires the strength of self-leadership (Drucker, 2005).

Many people seek to explore personal strengths through leadership opportunities provided through his or her work (Noe, Hollenbeck, Patrick, & Wright, 2003). Extending the opportunity for leadership to every employee opens up new opportunities for organizations to make a leader of every decision maker in the workplace (Noe et al., 2003). Even when every person has the opportunity for leadership, not every person will have the skills or desires necessary to be a successful leader. Those with the necessary skills and desires when given the opportunity to lead could develop a strong sense of empowerment, which could lead to employee engagement. In an effort to remain competitive in the global marketplace, some organizations may select to distribute leadership opportunities normally reserved for traditional managers and

leaders to the general workforce. The distribution and sharing of the power of decision making can have important implications for leadership effectiveness in groups as well as in the larger organization (Yukl, 2010). In organizations that are proactive in developing leaders the distribution of power is linked with the values and benefits associated with democratic practices (Yukl, 2010). Organizations with the vision to empower employees to lead set the foundations for continued growth (Yukl, 2010).

The distribution of leadership can result in better decisions, new ideas, greater acceptance, and the avoidance of problems associated with hasty decisions, polarization, and groupthink (Yukl, 2010). Developing an understanding of the relationship between perceived leadership ability and engagement could help organizations better manage their operations while developing an engaged workforce. A better understanding of the relationship between blue-collar perceived leadership ability and engagement adds to the body of leadership literature and provide a glimpse into an area of leadership in which very little research data is available. For those organizations seeking employee involvement in decision making as a means of creating a competitive advantage in the marketplace, data from the study could add to the body of research into employee leadership and engagement opportunities. Sustainable leadership is critical to a business's financial and management success through change (U.S. Government Accountability Office, 2006). The U.S. Department of Defense's (DOD) lack of leadership at all levels of the organization led to billions of dollars in fraud, waste, and abuse annually (U.S. Government Accountability Office, 2006). A lack of leadership in the DOD severely weakens the DOD management systems, operations, and controls (U.S. Government Accountability Office, 2006). The U.S. DOD spends billions of dollars every year on high-risk projects that fail because of a lack of leadership throughout the organization (U.S. Government Accountability Office, 2006).

Identifying, developing, nurturing, and empowering leadership at all levels of an organization could help in the development of an engaged workforce that demonstrates the virtues associated with moral and ethical leadership.

Nature of the Study

The nature of what it is to be human could very well be the key to the development of an engaged and empowered workforce. Exploring the fit between people and organizations is essential to organizational success (Fullan, 2000). Finding a fit requires an understanding of human needs (Fullan, 2000). The exploration into human needs starts with an exploration into the needs people have in their relationships with organizations (Fullan, 2000). The people of the world share a common biology and many of the same basic human needs (Kenrick et al., 2007). Understanding these basic needs helps "unravel the mysteries of social behavior" (Kenrick et al., 2007, p. 59). A key to revealing insight into developing engaged employees rests in understanding the social need for leadership. The framework of human resources management draws from four basic assumptions (Fullan, 2000). Assumption 1 is organizations do not exist as despotism; organizations exist to serve the needs of their human resources (Fullan, 2000). The second assumption is organizational success is dependent on people with ideas, energy, and talent (Fullan, 2000). People need organizations to meet their needs for career, salaries, and work opportunities (Fullan, 2000). Assumption 3 is if the needs of the organization and the needs of the organization's human resources are not in balance, both the organization and the organization's people suffer (Fullan, 2000). The fourth assumption is if the needs of the organization and the organization's people are in alignment, the organization receives the human talent and energy they need and the organization's people find meaningful and satisfying work (Fullan, 2000). Through studying the lessons of decision making and leadership, people and

organizations learn from the successes and failures of those from whom they preceded (Kenrick et al., 2007). Study data adds to the body of literature on the link between the needs of the organization and the organization's human resources. A greater understanding of the link could provide both organizations and employees the opportunity for successful growth.

Overview of the Research Method

A process in which quantities of data are tallied, manipulated, or systematically aggregated is termed quantitative research (Hinkel, 2005). Quantitative studies use quantitative tools to collect, process, and validate study data. The study sought to explore the existence of a relationship between two variables. Salkind (2006) stated, "The most likely type of research to answer questions about relationships among variables or events is called correlation research" (p. 13). In this study, two well-validated tools enabled the collection of data: LPI for perceived leadership ability and the UWES for workplace engagement along with a demographic questionnaire. A quantitative correlational study design was an appropriate design to meet the purpose of the study, which was to examine if a relationship existed between perceived leadership capabilities and workplace engagement among HVACR service technician, blue-collar workers. The literature provides data that indicate a relationship may exist between the traits of a leader and the traits of an engaged employee. There exist many characteristics or traits associated with leadership (Schira, 2007). Leadership researchers have identified some key leadership traits that are the most desirable in leaders and potential leaders (Schira, 2007).

Some of the most desirable traits of a leader include a mastery of communication, the ability to motivate and inspire, an openness to listen to the ideas, perceptions, and beliefs of others (Schira, 2007). Other traits of leadership include a personal vision, the desire to help others develop their own vision, the passion to see a vision come true, the ability to take risks,

the ability to take control, and the willingness to share in rewards (Schira, 2007). Power and influence are both properties of leadership. In many organizations, power and influence are the rights for those in traditional leadership and management positions. The centralization of power in the hands of a small influential group comes with many negative consequences (Yahya, 2009). Centralization of power can lead to ineffectiveness in decision making, low productivity, unpredictability of bureaucratic decision, lack of sustainability, and little, or no employee empowerment (Yahya, 2009). When power is in the hands of the few, the misuse of power can lead to corruption, fraud, and a lack of moral and ethical leadership.

The literature provides supporting data for the proposition that power-influence sharing in the decision making is associated with a variety of work attitudes and behaviors including job satisfaction, motivation, sense of control, resonance of ideas, role and task clarity, and the acceptance of a commitment to authorized decision or shared work goals (Yahya, 2009). These properties of power and influence sharing are remarkably similar to those associated with employee engagement. The properties associated with employee engagement include high levels of energy, commitment, job ownership, pride, passion, performance, job involvement, and organizational citizenship (Little & Little, 2006). Data from a study of more than 360,000 employees from 41 companies in the world's 10 largest economies indicates to researchers that engaged employees reduce costs, work harder, and create more satisfied customers (Towers Perrin, 2007).

In a 2008 global workforce study, the largest study conducted on workforce engagement, which surveyed nearly 90,000 employees of midsize to large organizations worldwide, 38% of those surveyed were disengaged in the workplace (Towers Perrin, 2008). Researchers in the global workforce study found that companies with the highest levels of employee engagement

had better financial results and retained the organization's most valued employees (Towers Perrin, 2008). The global workforce study researchers discovered the existence of a direct relationship between employee engagement and the employee's desire to develop knowledge and skills and to be a part of the organization's decision-making process (Towers Perrin, 2008). Researchers in the global workforce study concluded that without engaged leadership an engaged workforce is virtually impossible, that leadership attributes improve an employee's level of engagement, and the most essential work of the leader is to create more leaders (Towers Perrin, 2008).

Overview of the Design Appropriateness

The use of inferential statistics in hypothesis testing provides researchers the ability to investigate the relations between two or more variables to see how the variables are statistically associated (Vogt, 2007). In the study the focuses was on the relationship between two variables, employee leadership ability, and workplace engagement to enable researchers to evaluate the statistical association between the two variables making the study correlation. The technique of analyzing the collective and separate effects of two or more independent variables on a dependent variable is multiple regressions (Creswell, 2005). Correlation research incorporates correlation statistics to predict future events (Creswell, 2005). Data collected in this study enables researchers to evaluate the existents of a relationship between perceived leadership ability and workplace engagement to evaluate if leadership ability can predict engagement. Multiple regression analysis enables a researcher to identify variables that contribute to an outcome and to measure the comparative size of their contributions (Vogt, 2007). The use of multiple regressions is effective in research that examines the relationship between multiple independent variables with a single dependent variable (Creswell, 2005). The study had multiple

independent variables and a single dependent variable, making the design of the study appropriate for the use of multiple regressions. In the study, the dependent variable was workplace engagement (WE). The independent variables in the study included modeling the way (MTW), inspiring a shared vision (ISV), challenging the process (CTP), enabling others to act (EOA), and encouraging the heart (ETH) leadership style scores. Each of the independent variables represented properties of leadership. The study incorporated a quantitative approach to investigate the relationships between an employee's leadership ability and workplace engagement. The quantitative research method helps researchers determines if a relationship exists between the properties of leadership and the properties of engagement. The tools in the study provided an opportunity for this researcher to examine the existence of a relationship between employees perceived leadership ability and employee engagement among service technicians in the HVACR industry.

Qualitative research is a type of research in which the researcher is reliant on the views of the participants, asks broad general questions, and collects data consisting largely of words or text from participants (Creswell, 2005). The use of qualitative research "is best suited for research problems in which you do not know the variables and need to explore" (Creswell, p. 45). Qualitative research would not be appropriate in the study because of the availability of valid and reliable instruments for measuring the variables of perceived leadership ability and workplace engagement. Quantitative research is a type of research in which the researcher asks specific, narrow questions, and collects numeric data from participants (Creswell, 2005).

The effectiveness of quantitative research is reached when "the research problem can be answered best by a study in which the researcher seeks to establish the tendency of responses from individuals and to note how respondent tendencies very among people." (Creswell, p. 45).

The use of a quantitative method in the study was appropriate for the study based on the type of data used by the study's instruments. Quantitative methods in the study enable this researcher to evaluate the properties of leadership ability and employee engagement to determine if there exists a relationship between the two. In this study, two well-established surveys tools measured the existence of a relationship between leadership ability and engagement. The two survey tools used in this study included the LPI (Leadership Practices inventory) and the UWES (Urtecht Work Engagement Scale) to collect study data. The combination of the two surveys into a single Internet survey facilitated the collection of study data. Instrument delivery to study participants required the services of a world leader in online surveys solutions, SurveyMonkey. SurveyMonkey is a secure, user-friendly service used by many leading organizations to investigate a wide variety of research topics (McAndrews, 2009). Study survey instruments provide opportunities to collect the data necessary to examine the existence of a relationship between perceived leadership ability and workplace engagement. The presentation of the research methodology and data analysis pertaining to the study takes place in Chapter 3.

Research Questions

The quantitative correlational study provides researchers the opportunity to examine the relationship between blue-collar perceived leadership ability and workplace engagement directed at HVACR service technicians. Research questions represent the tools required by researchers to answer the underlying research question: What was the relationship between perceived leadership abilities and workplace engagement among HVACR service technician blue-collar workers? The operational definitions of leadership skills for the study are the five transformational leadership styles measured by the LPI instrument. Therefore, the research question was broken down into six subquestions as follows:

Research question one. What is the relationship between workplace engagement (WE) and the extent to which blue-collar workers possess a "modeling the way" leadership style (MTW)?

Research question two. What is the relationship between workplace engagement (WE) and the extent to which blue-collar workers possess an "inspiring a shared vision" leadership style (ISV)?

Research question three. What is the relationship between workplace engagement (WE) and the extent to which blue-collar workers possess a "challenging the process" leadership style (CTP)?

Research question four. What is the relationship between workplace engagement (WE) and the extent to which blue-collar workers possess an "enabling others to act" leadership style (EOA)?

Research question five. What is the relationship between workplace engagement (WE) and the extent to which blue-collar workers possess an "encouraging the heart" leadership style (ETH)?

Research question six. What is the extent to which blue-collar workers' modeling the way (MTW), inspiring a shared vision (ISV), challenging the process (CTP), enabling others to act (EOA), and encouraging the heart (ETH) leadership styles add independent information in predicting their level of workplace engagement (WE)?

These research questions served to promote the investigation into the relationship between the independent variable and dependent variable and the effects of the independent variables on the dependent variable. The first five questions specifically addressed the relationship between the study's independent and dependent variables. These five questions and

the ensuing answers provide researchers and organizations valuable insight into employee characteristics and behaviors that support sustainability and competitiveness in the global marketplace. Question six supports the developments of a predictive model for employee engagement should a relationship exist between blue-collar perceived leadership ability and workplace engagement. The study's research questions analysis could add to the knowledge of both leadership and engagement and could provide momentum for future research into the relationship between leadership characteristics and engagement.

Hypotheses

Six statistical critical hypotheses set the framework and direction for this study. In the study, H0: represents the *null hypothesis* and Hal: represents *alternative hypothesis*. Each of the first five critical hypotheses includes a null and critical alternative hypotheses to determine how perceived leadership in the workplace correlates with workplace engagement. Critical hypothesis six includes null and critical alternative hypotheses to determine if perceived leadership in the workplace predicts workplace engagement.

The hypotheses for this study are as follows:

$H0_1$: There is no correlation between the WE score and the MTW score.

Hal_1: There is a correlation between the WE score and the MTW score.

$H0_2$: There is no correlation between the WE score and the ISV score.

Hal_2: There is a correlation between the WE score and the ISV score.

$H0_3$: There is no correlation between the WE score and the CTP score.

Hal_3: There is a correlation between the WE score and the CTP score.

$H0_4$: There is no correlation between the WE score and the EOA score.

Hal_4:   There is a correlation between the WE score and the EOA score.

$H0_5$:   There is no correlation between the WE score and the ETH score.

Hal_5:   There is a correlation between the WE score and the ETH score.

$H0_6$:   The MTW, ISV, CTP, EOA and ETH leadership style scores do not add

independent information in predicting the WE score.

Hal_6:   The MTW, ISV, CTP, EOA, and ETH leadership style scores add

independent information in predicting the WE score.

The examination of each of these critical hypotheses in how perceived leadership ability correlates with workplace engagement provides researchers and business leaders the opportunity to use the acquired knowledge to develop leadership programs, processes, and procedures to promote employee and business goals and objectives.

Theoretical Framework

In the study, the theoretical framework encompasses the fields of leadership and engagement. The study was a relational study that enables researchers to examine the existence of a relationship between perceived leadership ability and engagement and falls within the range of organizational and management theory. Organizational theory is the study of how an organization functions and how the organization affects or influences the environment in which the organization operates (Jones, 2007). Four categories included in organizational theory are as follows: structure, design, change, and culture (Jones, 2007). The study falls under the category of organizational culture. Organizational culture is broken down into five subcategories. First in the list of cultural subcategories is a set of shared values and norms used in member interactions with each other and those outside the organization (Jones, 2007). Second in the list is

coordination and motivation, which links to individual behavior (Jones, 2007). Third is ethics and organizational structure (Jones, 2007). Fourth is growth and differentials, which is part of the organization's evolutionary process. Fifth is managing and changing through the process of organizational change (Jones, 2007). The study's data furthers the development of knowledge in each of these five subcategories.

The term "employee engagement" came out of the Gallup Organization's 25 years of research into employees and managers in the workplace (Little & little, 2006). Employee engagement and productivity, profitability, employee retention, safety, and customer satisfaction are statistically linked (Little & little, 2006). Organizations that understand human behavior have an opportunity to maximize the value created by engaged employees (Jones, 2007). The ability to develop engaged employees provides organizations the opportunity to develop an organizational culture that maximizes an organization's operations and is in line with organizational theory.

A leader in the simplest of terms is a person who enables others to achieve goals (Schira, 2007). Many perceive leaders as those individuals in an organization who fill the ranks of management. Leaders in reality include individuals who work in a group and encourage their peers to achieve high levels of performance and quality (Schira, 2007). When leadership is broken down into leadership's most basic element two terms are not present, title and position (Schira, 2007). The essential element required by effective leadership is a behavior that enables others to achieve goals (Schira, 2007). In the list of leadership behavior or the characteristics of leadership, the list is both long and includes complex theories and perceptions. Despite the long and complex list of leadership behaviors or characteristics, many would agree on some common behaviors or characteristics of leadership. Some of these include communication, motivation, openness to listen, vision, passion, risk taking, control, and rewards sharing (Schira, 2007).

People are a source of energy that helps develop and improve the capabilities of an organization (Harris, Jones, Sell-Lee, & Wang, 2004). The development of leaders at every level of an organization helps unleash the human potential of employees (Harris et al., 2004). Seventy seven percent of employees in the United States are unhappy with their jobs (Mardanov, Heischmidt, & Henson, 2008). Supervisory leadership is one factor that significantly affects employee work attitudes (Mardanov et al., 2008).

Because of the complexities of the modern knowledge team-based work environment, the skills necessary to meet the expanding needs of many organizations often can no longer be achieved by a single individual (Pearce, 2004). The traditional leader follower relationship, which emphasizes the one leader many followers' concept or vertical leadership, faces replacement by a more horizontal type of leadership (Pearce, 2004). Research studies have found that leadership shared between leaders and team members increases team performance (Pearce, 2004). Leadership research has found that high-performing teams generally display more dispersed leadership patterns or shared leadership (Pearce, 2004). Research also found that shared leadership occurs when team members are fully engaged in team leadership and are not hesitant to guide team members in a direction that maximizes the team's efforts (Pearce, 2004). Generally, when people find activities meaningful and rewarding, engagement is achieved (Pearce, 2004). One example of a rewarding or meaningful activity for the knowledge workers is leadership (Pearce, 2004).

An analysis of engagement and leadership literature indicates a link between leadership and engagement. The implication of link between leadership and engagement could be meaningful to both employers and employees. The relationship between leadership ability and engagement was the focus of the study. Research into the link between leadership ability and

engagement furthers both the study of leadership and engagement in the modern workplace. Providing knowledge into the link between leadership and those not traditionally seen as leaders furthers the study of leadership. Investigations into the link between a person's perceived leadership abilities and the person's level of workplace engagement could prove valuable in future research to establish additional knowledge on the evolution of leadership in the workplace. Focusing on the properties of engagement as they apply to leadership ability furthers the study of engagement. Data acquired from discoveries into the properties of engagement in the study may provide the engagement and leadership research community knowledge into areas where very little research or inquiries has taken place. The lack of knowledge in the areas of leadership and engagement extends to blue-collar engagement community. Other types of study benefited by the additional knowledge gained through investigations into blue-collar leadership include power and influence. How the properties of leadership translate into leadership ability and engagement was another question supported by this study.

Definition of Terms

There exist many definitions of the study terms. Providing definitions in a study helps ensure an understanding of the meaning as well as the context of the study's key word to the study's audience and study's participants. The following definitions help provide a clear understanding of the study's independent and dependent variables.

Cowboy economy: An economy driven by perception of unlimited resources (Nordhaus, 1974).

Blue-collar: Blue-collar workers are skilled, semiskilled, or unskilled manual labor workers in lower prestige jobs (Kottak & Kozaitis, 2003).

Employee engagement: The term "employee engagement" in the study refers to psychological states, traits, and behaviors as well as employee antecedents and outcomes (Macey & Scheuder, 2008).

 Trait engagement: Trait engagement includes those traits that promote positive views of life and work. Trait engagement in a person manifests itself as a proactive and engaged personality that leads to positive effects and conscientiousness (Macey & Scheuder, 2008).

 State engagement: State engagement is associated with feelings of energy and absorption (Macey & Scheuder, 2008). State engagement translates into personal satisfaction, involvement, commitment, and empowerment (Macey & Scheuder, 2008).

 Behavioral engagement: Behavioral engagement is in a person, is extra-role behavior, and results in organizational citizenship behavior, proactive personal initiative, role expansion, and adaptability (Macey & Scheuder, 2008).

 Leader: A leader is one who recognizes different situations and adapts to the situations on a conscious basis to reduce obstacles to personal and employee motivation (Hesselbein & Goldsmith, 2006).

 Leadership: Leadership is an enabling art through which a person finds his or her own voice and creates a spirit of performance that builds a person's personal strengths and the strengths of others (Hesselbein & Goldsmith, 2006).

 Knowledge work: Knowledge work is that work that requires significant investment in, and voluntary contribution of, intellectual capital by skilled professionals (Pierce, 2004).

 Productivity: Productivity is the measure of the efficiency of resource use as applied to staffing, machines, materials, energy, capital, and total resource used in producing outputs (Latham & Vinyard, 2006, p. 461).

Stakeholders: Stakeholders are all individuals or groups affected by an organization's activities (Latham & Vinyard, 2006, p. 461).

Empowerment: Empowerment refers to giving employees the authority and responsibility to make decisions and take actions (Latham & Vinyard, 2006, p. 457). Empowerment enables decision making as close to the frontline in which work related knowledge and understanding reside (Latham & Vinyard, 2006, p. 461).

Assumptions

In research, assumptions are similar to axioms in geometry or self-evident truths (Leedy & Ormrod, 2005). Assumptions often lack factual support. If a study's assumptions are not valid, the research could be meaningless (Leedy & Ormrod, 2005). In the study, the following five assumptions were made of the research, participants, and the study's results: (a) Study participants responded to the survey questions honestly and in an unbiased manner with the unselfish desire to help researchers develop a greater understanding of the relationship between perceived leadership ability and engagement, (b) study participants have the capability to respond accurately to the survey questions and have no intent to compromise the study; (c) reliability of the LPI and the UWES instruments are valid and reliable; (d) the data collection, analysis, and interpretation methods contain no biases, are consistent with the study's design, provide accurate and reliable conclusion, and repeatable predictions; and (e) participant responses are adequate to develop a greater understanding of the relationship between perceived leadership ability and engagement.

Scope, Limitations, and Delimitations

A clear understanding of a study's scope helps prevent scope creep. Scope creep is the tendency of a project or study to expand or change over time (Gray & Larson, 2008). If the scope

of a project changes, the results of a study face corruption, furthermore, study costs and direction could be dramatically altered (Gray & Larson, 2008). Limitations and delimitations of a study represent an attempt by the study's researcher to disclose study risk of data and analysis corruption. The establishment and acknowledgment of a study's limitations and delimitations helps in maintaining the reliability and validity of study results (Ellis & Yair, 2009)

Scope

In the study, the scope was to examine if or to what extent a relationship exists between perceived leadership ability and HVACR service technician blue-collar employee engagement. The blue-collar population for the study included service technicians in the HVACR industry in California. These service technicians are knowledge workers who performed both physical and technical service related to the installation, maintenance, and repair of a variety of HVACR systems and subsystems. The results of the study could be valuable to both the leadership and engagement community in evaluating the impact of leadership and engagement in the blue-collar employee work environment. Data collected in the study could assist in leadership development and engagement programs to improve organizational efficiency and performance.

Limitations

The following may have limited participation in the study: gaining access to the study through the Internet, survey navigation skills, unwillingness to complete the study, and unwillingness to take the time to complete the survey. Use of the Internet to conduct the survey research has many advantages and disadvantages. Some of the advantages of Internet usage include rapid deployment, real-time reporting, and reduced costs by as much as 40%, easy to personalize, high response rates, easy access to participants, and the availability of low-cost survey delivery tools (McDaniel & Gates, 2008). As attractive as the use of the Internet and web

tools is to those seeking to conduct survey research, the online environment does come with some limitations. The first of these is the study population is not adequately representing the study target population (McDaniel & Gates, 2008). Those who are the most comfortable with and have the most time and experience on the Internet may fall outside the study's average population. Participant Internet comfort levels could lead to study errors caused by an inadequate cross-sectional representation of the study's intended population. Another potential for errors when using Internet surveys could come from the security of the survey data. Complex security software addresses many security threats (Wagner, 2009). In the modern workplace cyber-crime and the theft of private data is steadily increasing (Wagner, 2009).

An additional problem with Internet survey is survey access. When an unrestricted Internet survey is set up on the Internet, anyone who wishes to can complete the survey. Open access to a survey could increase the possibility that those outside the study's focus group could take and corrupt the survey data. The study survey addressed some of the obstacle associated with open Internet access through password protection. To initiate the survey process, each participant must enter a complex password. In the study, the password was case sensitive and was alphanumeric. The distribution of the survey password was part of the survey notification process.

Surveys that use multiple-choice questions, by design, present questions with a limited number of options from which the respondent can make their choices (Church & Waclawski, 2001). Limiting the number of possibilities presented to study participants in closed-end surveys limits the quality and quantity of information in a study (Church & Waclawski, 2001). With these limits come potential errors or study solutions that do not reflect the true nature of a situation or condition (Church & Waclawski, 2001). Open-ended or the write-in-method of

answering questions provides respondents the opportunity to slip outside the confines of those limitations imposed by a close-ended survey and can lead to a richer, more meaningful research.

Some of the benefits of a closed-ended survey include the following: They are fast and easy for the respondent to answer, they are easy to understand and interpret, they provide a uniformity of responses, they provide respondents helpful memory cues to select the appropriate responses, and they can remind respondents of options they would otherwise not have considered (Church & Waclawski, 2001). Each of these reasons for selecting closed-ended surveys reflects many of the same demands placed on organizations seeking to be successful in the global economy. Organizational needs stimulate research community activities. The limitations imposed by multiple-choice questions is not debilitating if the survey is well designed and administered. Despite their limitations, closed-ended questions are extremely popular in organizational assessment survey efforts and provide tremendous opportunities for success (Church & Waclawski, 2001).

Delimitations

The focus of the study was on blue-collar service technicians in the HVACR industry in California who may not be representative of the demographics of blue-collar workers outside of California. In the United States, those heating, air conditioning and refrigeration mechanics, and installers represent 308,000 American workers (Bureau of Labor Statistics, 2010). Of these, only 8.6% are Black, 2.2% are Asian, 13.7% are Hispanic or Latino ethnicity, and 2% are women (Bureau of Labor Statistics, 2010). The U.S. population is estimated at 74.1% White, 12.4% Black, 4.3% Asian, 14.7% Hispanic or Latino, and 50.8% female (U.S. Census Bureau, 2009). These numbers suggest a potential disparity between the HVACR industry and the U.S. population demographics.

The focus of the study was in evaluating the existence of a relationship between perceived leadership ability and engagement among study participants. Multiple factors could lead a person to higher levels of perceived leadership ability and engagement not examined by the study. The study of leadership is an ongoing effort that has spanned the generations and will most likely span many more. Researchers over the years have provided a vast amount of knowledge on the link between leadership and individual or group observations and perceptions (Nahavandi, 2009). The study's data provide future researchers additional depth of understanding into leadership observations and perceptions. In some cases, leaders faced with the demands imposed by a global economy may misunderstand employee engagement (Fisk, 2008). Employee engagement encompasses many elements from personal history to financial rewards systems. The study only focused on the relationship between perceived leadership and engagement. The limited focus of the study may help future researchers develop a more comprehensive understanding of employee engagement and leadership.

Summary

Exploring the potential link between leadership and engagement provides opportunities to enrich the workforce and prepare employees to move into areas of greater responsibility. Today, many organizational leaders need to do more with less. Doing more with less often requires the distribution of leadership responsibilities and a workforce willing to do more without additional financial compensation. The distribution of leadership is the distribution of power and influence. Those within the workforce unprepared to meet the challenges of an empowered workforce may fall short of reaching their full potential. The study provides data on the existence of a link between, leadership perceived ability, and workplace engagement.

A better understanding of the relationship between leadership and engagement could provide opportunities for both organizational and employee success, empowerment, and a competitive advantage in the global marketplace. Doing what is right could reduce an organization's profits. Selecting to be ethical and moral in a person's decision making can run contrary to self-interest. The American people do not have a good record of accomplishment concerning treating people with respect and dignity independent of a person's social standing. The study provides data on the relationship between employees' perceived leadership ability and employee engagement and may provide organizations the opportunity to place in practice some key elements of good citizenship while increasing profitability. In Chapter 2, a review of the literature related to the study's theoretical framework takes place.

Chapter 2: Review of the Literature

The previous chapter introduced the quantitative study and provided insights into the nature of the study. In Chapter 1, insights into the nature, purpose, direction, and background of the study help set the foundations of the study. Chapter 1 presented the study's research questions and hypothesis that help direct the study to add to the knowledge of both leadership and engagement through exploring the existence of a relationship between the two. The purpose of the study was to identify if a relationship existed between perceived leadership ability and workplace engagement among HVACR service technician blue-collar workers. In Chapter 2 includes a review of the HVACR industry and the nature of work experienced by HVACR service technician blue-collar workers. Insight into the working environment of the study participants enables an in-depth understanding of how the study's participants experience leadership and engagement.

A review of the literature pertaining to leadership, engagement, and the environment of the study helps develop the framework and purpose of the study. In Chapter 2, a review of the literature establishes study justifications and drives the direction of the study. The establishment of the foundations and principles of both leadership and engagement requires a researcher's in-depth review of the literature on leadership and engagement. The review of the literature highlights the gap in knowledge in the fields of leadership and engagement potentially filled by the study. In Chapter 2, a review of the importance of workplace engagement and the benefits that an engaged workforce brings to the organization takes place. The underlying question of the study was as follows: Is there a relationship between perceived leadership ability and engagement? Included in Chapter 2, a review of the relevant literature on the existence of a relationship between perceived leadership ability and engagement takes place.

Title Searches, Articles, Research Documents, and Journals

The literature search included resources from online as well as campus-based public and private resources. Reviewed literature included journal articles, research documents, university publications, private research organizations, websites, training programs, eBooks, U.S. Government agencies, and other doctoral dissertations in the field of leadership, engagement, HVACR, and blue-collar workers. The use of Google Scholar ® and Google books using Google's search engine provided up-to-date peer-reviewed literature unavailable through other research sources. Online libraries were the sources of peer-reviewed articles, periodicals, scholarly texts, and eBooks. Peer-reviewed literature accessed through University of Phoenix research sources was the main resource of much of the study's literature review. University of Phoenix provided access to E-Resources included EBSCOhost, Infotrac, Oxford Scholarship Online, ProQuest, ProQuest Digital Desertions, Gale PowerSearch, and the Journal of leadership studies. Information for this study included 154 sources; approximately 95% of these sources came from the online-environment, approximately 75% from University of Phoenix E-Resources. The majority of the resources used in the study had a publication date after 2004. Literature published before 2004 helped establish a historic perspective.

Gap in Literature

Although there is an abundance of literature on leadership and engagement and their relationship with a variety of variables, there is a gap in the literature regarding the study's specific population and the relationship between perceived leadership ability and engagement. The gap in the literature supports the quantitative design of the study as a means of identifying the factors of perceived leadership ability that influence workplace engagement. In 2006, in a doctoral research study on how HVACR technicians learn from troubleshooting at the Oregon

State University, the researcher found that very little research exists in the area of blue-collar workers in the HVACR industry (Stern, 2006). The HVACR study researchers recommended further research into the development and learning for blue-collar HVACR technicians (Stern, 2006). Research into new areas of leadership are required to bring new insights into leadership that would otherwise go unnoticed and prevent a full understanding of the impact of leadership (Hackman & Wageman, 2007).

Little research exists on the impact of leadership abilities and workplace engagement. A lack of knowledge into leadership and engagement could prevent research from identifying what distinguishes leaders from nonleaders (Hackman & Wageman, 2007). Leadership scholars generally agree that the scholarly research on leadership is far from complete (Hackman & Wageman, 2007). Many researchers suggested that there exists a gap in knowledge into the best strategies for identify and developing leaders (Hackman & Wageman, 2007). The discoveries of a study on leadership development indicated that leadership competencies link directly to organizational success (Roberts, 2006). Leadership study researchers have concluded that additional research inquires help strengthen the link between leadership and business success (Roberts, 2006). John Wooden, basketball hall of fame player and coach, suggested, "success is peace of mind, which is a direct result of self-satisfaction in knowing you made the effort to become the best that you are capable of becoming" (Fifer, 2006. p. 30). Little research exists that examines the relationship between leadership and engagement. The knowledge gained in the study helps fill the gaps in leadership and engagement research. Limited literature exists on the relationship between leadership and engagement. Research in the study adds to the knowledge base on both leadership and engagement and the factors that contribute to successful leadership and engagement.

Documentation

The content searches used key words and phrases to search the literature for relevant literature related to the study's direction and focus. Some of the key words and phrases used included engagement, employee engagement, self-efficacy, leadership, leader, blue-collar, HVACR, workplace engagement, history, power, influence, change, employee leader, empowerment, employee development, unions, leadership training, transformational, perceived leadership ability, blue-collar engagement, and history of the American worker. A majority of the research materials used in the study included sources from 2004 to 2010 provided by the research solutions mentioned earlier. Literature published before 2004 provides for a historic perspective. A focus on the relationship between perceived leadership ability and blue-collar engagement enabled a deeper more productive search of relevant literature. Combining terms in the literature searches helped further refine the search for relevant resources.

Historical Perspectives of Leadership

Successful Leadership embodies core values, purpose, mission, vision, and commitment, which are the foundations of leading organizations (Pande, 2009). Some consider the properties of leadership new to the modern world. The perception of leadership as an exclusive property of the modern world is inconsistent with the literature. One of the most notable leaders in history lived more than 2,400 years ago in India (Pande, 2009). Long before the publication of modern theories on leadership an ancient researcher identified the principles of leadership used by many organizations today (Pande, 2009). Researchers discovered that between 350-283 B.C. an Indian leader named Chanakya authored a management book called *Arthashastra* (Pande, 2009). *Arthashastra* is one of the oldest management books known to exist (Pande, 2009). The 2,400-year-old book covered a range of topics including leadership skills, training, foreign trade, and

business strategies (Pande, 2009). Drivers of successful businesses are the same today as they were more than 2,400 years ago (Pande, 2009). The principles that Chanakya used to build an empire include the need for distribution of power, human resources development, and a focus on meeting the needs of the leader's followers (Pande, 2009). Successful organizations require good leadership. These leaders come from all occupations, national origins, races, and religions, and are not limited to the male gender. What differentiates these leaders is the style of leadership they embrace. Selected style of leadership is dependent upon a leader's abilities, the leader, follower's environment, and the needs of both the leader and the follower (Nickels, MeHugh, & McHugh. 2008).

A review of the literature discovered that the modern history of leadership theory began with the industrial revolution in the late eighteenth and nineteenth centuries (Nahavandi, 1997). The industrial revolution was a time of unprecedented change in the world, which focused on new methods and organizations for producing goods (Sterns, 2006). Industrialization altered in many ways how people live, how people play, how people define political issuers, and how people interact with each other (Sterns, 2006). The industrial revolution was a time of dramatic change; the study of leadership like many other research activities in organizations became much more rigorous (Nahavandi, 1997). Researchers moved away from relying simply on intuition and a description of common practices to the use of scientific methods to understand and predict leadership effectiveness (Nahavandi, 1997). A modern approach to leadership uses scientific methods to identify and measure leadership characteristics (Nahavandi, 1997). The modern scientific approach to leadership includes three basic areas of focus or eras. These eras include the trait era, behavior era, and contingency era (Nahavandi, 1997).

Trait Theory Era

The trait theory of leadership was popular in the late 1800s to the1940s and furthers the notion that the properties of leadership can be linked to a person's DNA passed from one generation of leaders to the next (Nahavandi, 2009). Many well established authors including William James in his book, *Heroes and Hero Worship,* championed trait theory (Nahavandi, 2009). More than 40 years of study has provided little evidence to justify the assertion that leaders are born yet many still cling to the assumption that leadership is a birth right (Nahavandi, 2009). Even in the modern age, blood right and elitism continue to guide many in their perceptions of leadership based on family history, a name like Kennedy, an address like Beverly Hills, or even an educational background from a university like Harvard.

Behavior Theory Era

Behavior theory is associated with an era from the mid-1940s to the early 1970s (Nahavandi, 1997). Behavior theory addresses many of the failings of trait theory. The core advantage of behavior theory over trait theory is behaviors are learned. Behavior theory researchers focus on leadership behavior as a source of a leader's effectiveness then concentrate on which of these behaviors promote positive leadership outcomes. Although many of the research studies conducted on leadership behavior did identify many leadership behaviors linked to leadership effectiveness, there was no clear link that behaviors support leadership effectiveness (Nahavandi, 1997). These studies found that behaviors like consideration, being supportive, and relationship-oriented behavior are associated with follower satisfaction, loyalty, and trust (Nahavandi, 1997).

Although leadership behavior alone is not the answer to predicting leadership, the behavior approach does add to the knowledge of leadership (Nahavandi, 1997). Behavioral

theory established the importance of behavior in leadership and highlighted the benefits of

leadership training. Where behavioral theory failed is in providing a thorough understanding of

the leadership phenomenon (Nahavandi, 1997). Behavior theory represents another link in the

leadership story. The study provides researchers data on the perception of leadership ability of

HVACR technician blue-collar workers and their engagement to identify if a relationship

between the two factors exists. The ability to identify those behaviors linked to leadership

provides opportunities to nurture these abilities in the next generation of leaders. Establishing a

link between leadership ability and behaviors provides organizational leaders with the

opportunity to improve efficiencies and productivity in a new generation of leaders.

Contingency Theory Era

The contingency theory era started in the early 1960s and is one of the most popular

leadership theories used today (Nahavandi, 1997). In the 1960s, researchers were looking for a

more comprehensive approach to leadership than those provided by trait or behavior theories of

the time. Fred Fiedler, a leading scientist of the day, spearheaded the drive in the direction of the

contingency model of leadership (Nahavandi, 1997). In the contingency model of leadership

personality, style, or behavior of effective leaders is dependent on the requirements of the

environment that the leader finds himself or herself in (Nahavandi, 1997). Some interpretations

of the contingency model forward the notion that there exists no one best way to lead and that

different leadership traits, styles, or behaviors are required in different environments. The

contingency model has many supporters. Despite the support of the contingency model, many

theorists discount the effectiveness of the contingency model. Knowledge gained with the

contingency model provides researchers a deeper and richer perspective into the nature of

leadership. Contingency theory is particularly important to the study as those who participated in

the study represent an untapped source of power and influence in the global economy. The contingency model forwards the premise that people can learn to be good leaders and that the environment is a determinant of effective leadership and that leadership makes a difference in the effectiveness of groups and organizations. The study's data could help researchers explore the reality of these assumptions in the HVACR blue-collar environment.

Unlikely Leader

Most people recognize names like Cesar Chaves, Martin Luther King Jr., and even Joan of Arc as leaders of significant distinction. In the business community, people like Willard Marriott, John Nordstrom, William Boeing, and Bill Hewlett stand out as excellent examples of successful leaders (Kouzes, 2003). In contrast to the names of leaders who appear in print, the names of many noteworthy leaders never grace the pages of the history books. Many of these unnamed leaders exemplify the spirit of leadership and engagement, yet historians have failed to chronicle their efforts (Kouzes, 2003). In 1975, an active 18-year-old Jewish national merit scholar, civil rights activist, AFL-CIO volunteer worker college student from Massachusetts lost her life in the efforts to help sugar plant workers in Florida. Her name was Nan Freeman (Jensen, Burkholder, & Hammerback, 2003). Nan Freeman, inspired by Cesar Chaves, in turn inspired others through her courage and was a leader in the fight for civil rights. The question for leadership and engagement researchers is, "Does leadership ability creates engagement like that demonstrated by Nan Freeman?"

In 1940, a young Polish social worker defied the commands of the Nazis repeatedly to help save the lives of an estimated 2,500 Warsaw Jewish ghetto children from certain death (Hayes, 2007). In 1943, the Nazis discovered what the heroic woman had done and her reward included arrest, brutally tortured, and being scheduled for execution (Hayes, 2007). The heroic

woman only escaped death through the efforts of her supporters (Hayes, 2007). Irena Sandler

was that courageous leader and hero engaged enough to save the lives of 2,500 children (Hayes,

2007). Sandler was not of noble blood; she was the granddaughter of an immigrant (Hayes,

2007). Sandler's extreme example of leadership and engagement was a powerful force in the war

against the Nazis. These examples illustrate the power and influence of leadership that stems

from engagement from those not normally seen as leaders. The studies data could help

researchers explore the link and open the gateway to new possibilities. Great leaders include

those with little name recognition who have empathy, compassion, and unqualified acceptance of

those they lead (Kouzes, 2003).

Leader of the Future

Though predicting the future is beyond the scope of the study there exists strong evidence

to suggest a paradigm shift in leadership is about to emerge. The business world is changing at

an unprecedented rate (Hesselbein & Goldsmith, 2006). Technology is changing methods of

communication, the complexity of the workplace, and the skills required to be successful in the

workplace (Hesselbein & Goldsmith, 2006). A Leadership development programs in the modern

world often focuses on teaching a person how to be and not what to do as a leader (Hesselbein &

Goldsmith, 2006). One of the most important lessons in leadership teaches a person to find his or

her own voice and have the courage to do what is right, moral, and ethical (Hesselbein &

Goldsmith, 2006). The development of leaders starts by teaching a person to take responsibility

for their actions (Hesselbein & Goldsmith, 2006). By placing people in leadership roles, a person

can learn to develop control over his or her mind. Placing individuals into positions of leadership

teaches them the importance of team concepts and self-sacrifice. Fundamentally, leadership is a

social activity that requires cooperation, sharing, and the development of trust (Hesselbein &

Goldsmith, 2006). For many the path to leadership teaches the preservation and development of value and helps create pathways to personal and professional growth. The development of leadership abilities is a process through which a person finds his or her own inner self and enables that inner self to rise to the surface.

Leadership is a process through which a person recognizes the importance of understanding and improving his or her self-leadership (Neck & Manz, 2007). A person can be empowered to take command of his or her own future and make the sacrifices necessary to reach their goals and objectives through self-leadership (Neck & Manz, 2007). Self-leadership helps a person overcome his or her natural tendency of negativity (Neck & Manz, 2007). Through self-leadership a person can overcome the irrational behavior of the mind, can learn to control the functions of his or her mind, and achieve success in the struggle over their emotions. Self-leadership is a concept through which individuals become empowered to guide the direction of their lives and the success of the organization. Those who achieve self-leadership are empowered to take command of their environment and the events in that environment. Through the mastery of self-leadership, a person can develop the open will, the open heart, and the open mind necessary to lower the walls of self-interest and explore, share, and experience the power of team concepts (Hesselbein & Goldsmith, 2006). The power of self-leadership can reshape a person's character, change dissent into hope, and change a follower into a leader. In many cases, self-leadership can improve organizational performance, customer service, and profits (Neck & Manz, 2007).

Leaders who nurture self-leadership in their followers are providing opportunities within the organization for each member of the organization to become instruments of change. These instruments of change are the voices of the organization that can direct organizational behavior.

The directing of behavior guides an organization's actions through moral and ethical decision making   (Neck & Manz, 2007). By developing a person's self-leadership abilities employees learn to take charge of their environment and develop patterns of behavior that contribute to organizational success (Neck & Manz, 2007). These behaviors could include ensuring needed resources are available, doing homework, and taking care of individual physical and mental health. The development of self-leadership skills helps develop a person's goal setting, awareness, and team practices (Neck & Manz, 2007). In the team self-leadership environment, groupthink becomes team think (Neck & Manz, 2007). Through groupthink, each team member works together to guide the team to the team's established goals and objectives (Neck & Manz, 2007). The world is changing at an unprecedented rate. To navigate successfully through change may require a new paradigm in leadership. In the new paradigm, performance and value may be the responsibility of each employee. In the new paradigm, the development of a person's self-leadership skills could be essential in securing success in the global marketplace for both the individual and the organization.

Predicting the future with certainty is beyond the capability of any leader. Despite these limitations the result of or the consequences of actions or inactions can with some degree of confidence be estimated based on accurate and reliable data. What each leader does have is a workforce with the potential of creating a future in which the organization flourishes. To realize a future that enables personal and professional growth may require a workforce with an open will, an open mind, and an open heart (Hesselbein & Goldsmith, 2006). One way to make possible personal and professional growth could be through the development of self-leadership practices. Noting is impossible, of course, unless a person does nothing.

Properties of Leadership

Many researchers have suggested that leadership is a process through which a person learns how to maneuver within his or her environment with a high level of success (Hesselbein & Goldsmith, 2006). To shape effectively how a person acts requires knowledge of which leadership attributes are appropriate for a specific leadership environment. Leadership theories have and will continue to go through many changes. Despite changing times many of the principles, values, and fundamentals of leadership have remained consistent through the years (Hesselbein & Goldsmith, 2006). Successful leadership can be a simple matter of knowing the properties of leadership and implementing those properties, which are appropriate for the environment.

Leadership skills

Maintaining a competitive advantage is essential to personal and professional growth in the modern workplace (Bateman & Snell, 2009). One of the key components in successfully leveraging career opportunities is personal and professional leadership (Bateman & Snell, 2009). Leadership requires the development of a compelling vision and a clear destination (Hesselbein & Goldsmith, 2006). Successful leaders need to develop the skills necessary to share a vision and turn that vision into reality. The study's data could enable researchers to explore the notion that each person has some degree of leadership potential and that a person simply needs to develop their leadership skills. Some of the skills necessary to be a successful and effective leader can be specific to a particular environment. Dispite the diversity of leadership requirements, given the environment some common skills apply to most leadership positions. Because of the ever-

increasing rate of change in the global marketplace, the skills and abilities of a leader require regular updating to keep up with industry demands (Yukl, 2006)

The Four Phases of Growth

John Maxwell suggested four phases of leadership growth (Maxwell, 1998). In the first phase, a person must accept that he or she does not know what he or she does not know. In the first phase of leadership development, a person must come to the realization that leadership is influence and some people have more influence while others have less (Maxwell, 1998). If a person accepts as fact the power and responsibility of influence then that person has taken the first step in becoming a leader (Maxwell, 1998). Many researchers believe that a leader exists within every person and that leader within simply requires nurturing to be revealed. The second phase of leadership growth is I know what I do not know (Maxwell, 1998). In the second phase of leadership, a person comes to the realization that he or she needs to know more about leadership and take actions that help develop their leadership abilities. The third phase of leadership growth is I grow, and I know it starts to show (Maxwell, 1998). In the phase of leadership, others start to notice a person's leadership development and acknowledge their leadership abilities. Phase three is a lifelong process of growth. The final phase of growth a person comes to the realization that I simply go because of what I know (Maxwell, 1998). In the final phase of leadership, a person reaps the rewards of lifelong learning and teaches others how to lead. Leadership is a learning process that often takes a lifetime to master. In the new global marketplace, the lifelong learning process needs to start the day an employee is hired. Not every person who walks through those doors will seek the path of the lifelong learner or the path of

leadership. Those who follow the path of leadership when given the opportunity could become one of the organization's most successful investments.

Developing Leadership Skills

Taking personal responsibility for success in the modern workforce requires self-leadership (Bateman & Snell, 2009). Through leadership, a person can create positive change in his or her life and the lives of others (Bateman & Snell, 2009). Leadership has many properties essential to organizational success. Some of these leadership properties include skills specific to an environment. Many of the needed leadership skills for successful leadership are common to most leadership styles. Some of these common skills of leadership include technical, cognitive, and interpersonal skills (Yukl, 2006). Cognitive skills are necessary for the leader to analyze problems, develop creative solutions, and identify patterns and trends in data to develop business and leadership solutions (Yukl, 2006). Interpersonal skills are essential in the development of relationships that foster influence, trust, understanding, team concepts, and conflict resolution (Yukl, 2006). The modern leader needs the social, financial, political, and legal skills necessary to meet the expanding global needs of his or her organization (Yukl, 2006). Today's leader needs a mastery of the rapidly changing technologies critical to business success (Yukl, 2006). These fundamental skills are essential and extend far beyond the traditional limits of power and influence. The long-term success of many organizations hinges on the ability of the organization to identify, develop, and train leaders with these skills (Yukl, 2006).

Today many organizations use team-based shared leadership practices to maintain a competitive advantage (Bateman & Snell, 2009). Successful shared leadership can only occur when the role of leadership rotates to another person who has the skills and abilities to meet the

demands of leadership (Bateman & Snell, 2009). The importance of leadership to organizational success results in the expenditure of billions of dollars annually by organizations in the United States to find, develop, and retain successful leaders (Yukl, 2006). Leadership development takes many forms including formal training, informal training, mentoring, and self-help activities. Many interventions promote leadership development. Some interventions are linked to individual leaders others are specific to an environment (Yukl, 2006). Research into the relationship between leadership and engagement could help create a deeper understanding of both leadership and engagement. Acquiring a deeper understanding of leadership and engagement could help in developing leaders from areas not traditionally linked to leadership. In a competitive business environment, developing leaders at every level of the organization is important to the long-term success and effectiveness of a small family owned or Fortune 500 business.

The Need for Leadership

A single source of leadership solutions in the highly complex modern workplace is unrealistic if long-term success is the objective (Bateman & Snell, 2009). With an aging workforce and the demands for globalization, many organizations will need to identify, train, and develop leaders at all levels of the organization if the organization is to survive (Noe, 2008). In the next few years, many organizations will experience a significant loss in management and leadership talent because of turnover resulting from death or retirement (Noe, 2008). To remain competitive organizations need to create processes through which people work collaboratively in finding and developing business solutions (Bateman & Snell, 2009). Many companies are unprepared to meet the leadership and management needs of a global economy. Eighty-five percent of Fortune 500 companies acknowledged that they do not have enough employees with

the leadership skills necessary to meet the leadership demands of the global marketplace (Noe, 2008). Of those organizations that believe they have the needed people, 60% of these organizations do not believe that their employees have the skills necessary to meet the organization's requirements (Noe, 2008). Identifying those with leadership ability could provide organizations the human resources necessary to compete effectively in the global economy.

One way to find and develop leaders is through employee empowerment. Employee empowerment is a process in which employees become responsible for organizational decision making (Noe, 2008). Achieving personal growth and self-actualization is extremely important to many in the workplace (Bateman & Snell, 2009). Researchers have found in organizations in which employees have opportunities for advancement and are encouraged to contribute to organizational success, employees became highly engaged (Bateman & Snell, 2009). Leadership development could provide opportunities for heightened levels of employee engagement. The study's specific problem was that despite the extensive research into leadership and engagement, little knowledge about the relationship between leadership and workplace engagement among HVACR service technicians exists. HVACR technicians require extensive training in a wide variety of skills. One item often overlooked in developing technician's skills is leadership. Leadership training is critical to ensuring the future of both the organization and the employee (Yang, 2009). Employee leadership development commonly links directly to employee job satisfaction (Yang, 2009). Providing opportunities for employees to build and develop leadership skills could motivate employees to take the actions necessary to develop their skill deficiencies in other areas (Yukl, 2006). Researchers have found that with as little as a 5% increase in employee engagement, customers' perceptions improved by 1.3%, which can drive revenue growth by at least 0.5% (Fisk, 2008).

Personal Responsibility

One key attribute of leadership is taking personal responsibility for lifelong learning and the actions or inactions of self and those one influences (Rasaw, 2001). Personal responsibility is the key driver of moral and ethical conduct (Rasaw, 2001). Employee workplace involvement and participation are directly proportionate to levels of personal responsibility exhibited by employees (Rasaw, 2001). In 1996, the U.S. Congress acknowledged the crucial nature of personal responsibility through the enactment of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) (Parish, Andrews, & Rose, 2010). PRWORA ended welfare as an entitlement program and attempts to place the responsibility for a person's actions or inactions on the individual (Parish et al., 2010). The Association of American Colleges and Universities concluded that students need training in taking personal responsibility for their actions if these students are to become good citizens of a global society (Chickering & Braskamp, 2009). Leadership requires the taking of personal responsibility for one's actions and the actions of others (Short & Greer, 2002). Today many organizations seek to empower employees through self-management (Short & Greer, 2002). Successful self-management requires the employee to take personal responsibility for their actions (Short & Greer, 2002). Through the development of a sense of personal responsibility, high levels of commitment to achieving organizational goals and objectives could result. By identifying and developing the leadership capabilities of employees, increased levels of personal responsibility could result. Leadership is a consequence of personal responsibility (Pearce, 2004). Leadership stimulates personal engagement (Pearce, 2004). Shared leadership maximizes team potential (Pearce, 2004).

Leadership Theories

Any person can rise to the top of his or her profession if he or she has the knowledge and ambition necessary to leverage opportunities (Drucker, 2005). To thrive in a changing environment a person needs to learn the lessons of history and develop new and innovative ways to leverage opportunities (Hesselbein & Goldsmith, 2006). One of the key challenges to leadership is applying the right leadership practices in the right environment at the right time. The historic lessons of leadership act as a bridge from the past to the future to foster the wisdom necessary for successful leadership (Hesselbein & Goldsmith, 2006). Leadership theory acts as one of those bridges to future leadership success. An over abundance of leadership theories has resulted from many generations of leadership research. Dispite the abundance of leadership theories only a select few leadership theories are accepted by most modern leadership researchers and practitioners as the foundations on which all other leadership theories and practices are based

Great Man Theory

The personal attributes of successful leadership have fascinated leadership researchers throughout history (Williams, 2009). According to great man theory, or what was once known as the personalistic history theory, great historic events are not the results of the sum of the populations, but are the results of the heroic or evil activities of single individuals (Goodwin, 2005). Those who subscribe to the great man theory suggest that individual characteristics alone are the determining factors of the leader within (Williams, 2009). The great man theory perspective of leadership forwards the notion that people like Newton, Darwin, and Freud

changed the course of history because of their individual effort and not the efforts of a collective (Goodwin, 2005).

The great man approach to leadership found support in the nineteenth century writings of Thomas Carlyle in his book *On Heroes, Hero Worship, and the Heroic in History* (Goodwin, 2005). Personalistic history theory forwards the idea that the minority of a population supports the majority of a population. There exists little evidence to support the proposition that the course of human events hinges on the actions of a single individual (Goodwin, 2005). The naturalistic theory of history forwards the proposition that, in reality, the forces of history act on the individual and not the individual on history (Goodwin, 2005). Leo Tolstoy in his book *War and Peace* forwards the idea those forces beyond the control of a single individual move history (Goodwin, 2005). A balanced approach to history recognizes that history is a complex relationship between people and their environment (Goodwin, 2005). The events that change the course of human events are the result of efforts of many people and not just a single group. In 1776, the Declaration of Independence helped establish a new nation. Though the words in the Declaration of Independence were from the pen of Thomas Jefferson, the words were a reflection of the ideas of many that preceded Jefferson including Locke's writings in *The Second Treaties of Government*. As powerful as the Declaration of Independence may have been, the United States of America would most probably not exist if not for the efforts and sacrifices of those long forgotten, who gave the words of the Constitution meaning and relevance. The birth of the United States often credited to the signers of the Declaration of Independence is an unsupported perception. Despite the common perception of the importance of the founding fathers, a person could argue that without the efforts of blacksmiths, merchants, farmers, and all those considered blue-collar workers, the vision of Americas founders would never have become a reality.

A team is a group of people with complementary skills working together toward a common goal (Schermerhorn, Hunt, & Osborn, 2005). In successful teams, each member of the team takes collective responsibility for the success of the team (Schermerhorn et al., 2005). Team concepts drive the leadership and engagement of people in both public and private settings. Team concepts have driven success throughout human history from the American Revolution, WWII, and even today in the actions of the United Nations, the Kyoto protocol to protect the environment, and the efforts of those seeking to fight world hunger. The skills and resources needed to be a successful and effective leader in a complex, modern world can no longer reside in a single individual (Scharmer, 2009). In many instances the skills necessary to be successful and efficient reside in the team and the lines between the leaders and the followers are faded. As these lines of leadership fade, leadership may fall to those who fill the ranks of those normally not linked to leadership (Hesselbein & Goldsmith, 2006). Some researchers consider the modern approach to great man theory as tapping into the collective capabilities of many leaders for the greater benefit of the collective (Scharmer, 2009). In a collective approach to leadership, an organization attempts to leverage the great leader within each person to achieve successful outcomes not possible through the efforts of a single individual (Scharmer, 2009).

Charismatic Leader Theory

Charisma is a Greek word, which means divinely inspired gift. Examples of divinely inspired gifts include miracles, or psychic predictions (Yukl, 2006). In 1947, Max Weber used the term "charismatic leader" to describe a form of influence based on the follower's belief that a leader possesses exceptional charismatic qualities (Yukl, 2006). Charismatic leaders seek to lead their followers through the manipulation of emotions and influence (Yukl, 2006). Proponents of

the charismatic style of leadership forward the notion that the only elements necessary to establish followers is charm, grace, and the establishment of belief in the leader. Charismatic leaders establish a faith in them by their followers. Often the power of faith lacks evidentiary support and followers simply trust their charismatic leader. Franklin D. Roosevelt was the leader of "the great generation" as defined by Tom Brokaw and the person who brought the United States out of the Great Depression and led the United States to victory in WWII (Rowe, 2004). Roosevelt was a charismatic leader who generally had the best interests of his followers in mind in his decision-making   process (Rowe, 2004). Roosevelt is a positive example of an inspirational and intuitive, charismatic leader (Rowe, 2004).

In dark contrast to Roosevelt during the same period was Adolf Hitler (Schermerhorn et al., 2005). Hitler's charismatic leadership style transformed Germany from an economical depressed third world power into a global threat to all the nations of the world in just a few short years (Yukl, 2006). Hitler was the man behind Germany's global aggression, persecutions, destruction, and the death of millions of people around the world (Yukl, 2006). Hitler drove his nation to destruction, influenced his followers to do unthinkable atrocities, and in one last cowardly act took his own life (Schermerhorn et al., 2005). Adolf Hitler represented the dark side of charismatic leadership (Schermerhorn et al., 2005). How to differentiate between positive and negative charismatic leaders continues to be a struggle for theorists. One way to identify positive charismatic leaders is outcomes. Unfortunately, outcomes often come too late to counter the effects of charismatic leaders like Hitler. In the case of Hitler, a person can easily see the dark side of charismatic leadership. Hitler was a charismatic leader who acquired a great many loyal followers. Hitler was also a psychopath (Wilkinson & Hughes, 2004). Hitler represents the dangers of charismatic leadership and the need for shared leadership and self-leadership.

Transformational Leadership Theory

Transformational leadership embodies change, innovation, and entrepreneurship (Ticky & Devanna, 1990). In the purest state of transformational leadership, the leader has as his or her primary interest the welfare of their followers with the outcome of developing followers into leaders (Hannum et al., 2007). The reality of transformational leadership is that the purest state of transformational leadership may never exist in the real world. Much of the literature on transformational leadership focuses on people in key leadership positions. Despite the limitations of the literature, transformational leadership in the global workplace is applicable at all levels of an organization. Transformational leadership is a compelling leadership style in which the leader seeks from their followers trust, admiration, loyalty, and respect (Yukl, 2006). In some ways, transformational leadership is a narcissistic approach to leadership. Despite the self-serving aspect of transformational leadership, the transformational leader often seeks to transcend his or her own self-interest for the sake of the organization or the team (Yukl, 2006). Transformational leadership may result in the follower complying with leader's requests but the follower may not be enthusiastic or committed to the task, or the objectives set forth. The use of transformational leadership found initial acceptance by political leaders and the business community later adopted transformational leadership. In many cases, transformational leaders are only successful through their shared vision. If the leader cannot share his or her vision, then the transformational leader is often unable to sustain the needs of their followers. In today's facts-based work environment, simply being a transformational leader is not adequate to meet the needs of the organization or those who follow.

Today a leader needs to do much more than just motivate and engage their followers. In the modern workplace, a leader requires the skill and knowledge necessary to meet the demands of a complex global workplace. The complexity of leadership in the global workplace does not underplay the importance of a transformational leader's ability to share his or her vision with followers. A transformational leader's shared vision helps ensure a culture that supports the leader's power and influence. Though vision is important, substantive leadership skills are required to sustain momentum initiated by a compelling vision. Transformational leadership has five dimensions: charisma, idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Harter, Hayes, & Schmidt, 2002). Each of these five dimensions brings the leader power and influence. The effectiveness of the power and influence gained is dependent on how the power and influence fits the follower's needs and how the leadership style fits the environment.

Transactional Leadership Theory

Transactional leaders motivate their followers through appealing to the follower's self-interest (Yukl, 2006). To take advantage of a person's quest for self-interest, transactional leaders offer their followers jobs, promotions, money, power, and influence in return for their continued followership. In many cases, transactional leadership includes the exchange of values like honesty, fairness, responsibility, and respect. From 1914 to 1917, Ernest Shackleton and his crew found themselves stranded in Antarctica (Harland et al., 2005). The survival of Shackelton's entire crew in Antarctica under the most tenuous of conditions is in no small part the result of Shackelton's leadership style and behavior (Harland et al., 2005). Schakelton's

leadership style and behavior drove his crew through 2 years of hardships to the day when each of his crewmembers successfully returned to civilization (Harland et al., 2005).

In the case of Shackelton, he gave his crew the hope and desire necessary to overcome their environment and his crew gave him devotion, trust, and respect and followed him to their salvation from their circumstances. The first of the three transactional leadership dimensions is the contingent reward dimension (Harland et al., 2005). In the first dimension, the leader makes very clear to their followers the rewards for success. The second stage is management-by-exception-active, which focuses on mistakes, failures, and complaints (Harland et al., 2005). In the second dimension, followers will not generally provide feedback and the leaders would be following a model of avoidance and coping (Harland et al., 2005). The third dimension, laissez-faire leadership is expressed in a leader's avoidance of involvement, avoiding decision making, being absent when needed, and delaying responding to urgent questions (Harland et al., 2005). In many cases, the transactional style of leadership is not a positive solution for follower long-term control and generally cannot stand as the sole style of leadership.

Servant Leadership Theory

In 1970, Robert Greenleaf gave life to the servant leadership concept (Yukl, 2006). The servant leader's duties are to his followers and to the promotion of moral and ethical leadership (Yukl, 2006). A servant leader seeks to nurture, defend, and empower their followers. The servant leader's goal is to help the follower to develop their skills and abilities so that the follower can move into areas of greater responsibility. To archive the goal of follower development the servant leader needs to know what motivates the follower. The servant leader must listen intently to determine the true needs of the followers and assist in meeting those

needs. An identifying feature of servant leadership is the leader's attention to their followers. Leaders identified as servant leaders are generally those with the highest values and morals and uphold these values and morals independent of the interests of the leader or the organization. Those who demonstrate servant leadership seek to empower their followers with little or no regard to his or her own power and influence. As admirable as the servant leadership style may appear, little evidence supports servant leadership as a single leadership solution in the business community (McCuddy & Cavin, 2008). Those who seek to be servant leaders must keep a constant check on selfishness, greed, and the manipulation of others (McCuddy & Cavin, 2008). In a study conducted in 2008, researchers found that there exists a link between servant leadership and the fundamental moral orientation and effectiveness of people in leadership positions (McCuddy & Cavin, 2008). In the 2008 study, researchers found a link between servant leadership and heightened levels of leadership effectiveness (McCuddy & Cavin, 2008). A servant leader's goal is to serve his followers. The goal of service above personal gain could make the servant leader a target to all who would challenge the servant leader's duties to their followers. Few leaders epitomize the virtues of servant leader because of the tremendous personal sacrifices the servant leadership style of leadership requires (Kouzes, 2003).

Each of the leadership practices mentioned brings added knowledge to the study of leadership. Additionally these leadership practices are successful to some degree in most leadership applications. Understanding leadership does not result in successful leadership and the perfect leadership style does not exist. Additionally, no one leadership style can lead an organization to success. The true nature of leadership is not in the works of a single philosophy or through the works of a single individual. True leadership is the collective works of an engaged

team of professionals with a united goal. In the study, the basic purpose of leadership is the creation of new leaders.

Leadership Practices

The primary goal of leadership is empowering followers to reach their potential (Kouzes, 2003). Which leadership practices are most effective in empowering employees has been a subject of business, academic, and social debate for many generations (Kouzes, 2003). The Leadership Practices Inventory LPI is one of the most widely used and accepted instruments for measuring leadership competencies in the world (Hesselbein & Goldsmith, 2006). Hundreds of doctoral dissertations and academic research projects have use the LPI instrument as the foundations for successful leadership research (Hesselbein & Goldsmith, 2006). The LPI identifies five leadership practices of exemplary leaders, which are the focus of the study. These leadership practices include modeling the way, inspiring a shared vision, challenging the process, enabling others to act, and encouraging the heart (Kouzes & Posner, 1995).

Challenging the Process

The first process attributed to exemplary leadership is challenging the process. Challenging the process is the searching for opportunities and the embracement of experimentation (Nahavandi, 1997). Searching out challenging opportunities promotes change, growth, innovation, and improvement (Kouzes & Posner, 1995). Leaders should continually seek to improve their leadership positioning through process improvements and reinventing themselves. Complacency in the status quo can lead to out of control situations. Challenging the process requires one to adapt to a way of thinking in which a person is open to new ideas and perspectives independent of the pressures to do otherwise. Success in challenging the process

requires a person to take risks that increase opportunities for failure, ridicule, and isolation. The risks associated with challenging processes are often greater than the rewards received (Kouzes & Posner, 1995). Despite the risks, challenging the process is essential for successful change, evolution, and survival (Kouzes & Posner, 1995). The challenging the process score (CTP) measurement uses a continuous scale with a range of 6 to 60. The score comes from calculating the sum of questions 3, 8, 13, 18, 23, and 28 from the LPI questionnaire. Smaller scores indicate the blue-collar worker possesses less of the challenging the process leadership style while larger scores indicate the worker possesses more of the challenging the process leadership style.

Inspiring a Shared Vision

Inspiring a shared vision requires envisioning a future and instilling that vision in others. Envisioning is the process of uplifting and ennobling the future (Kouzes & Posner, 1995). Instilling a vision in others is a process of developing in others a picture of the future that appeals to their values, self-interest, hopes, dreams, and deep-seated desires (Kouzes & Posner, 1995). The creation of a shared vision is critical to the development of shared leadership in a knowledge-worker team (Pearce, 2004). According to *Fortune* magazine, a shared vision is one of the most important properties of leadership (Pearce, 2004). A shared vision can create a very powerful connection between a leader and a follower or between team members. Leadership is often dependent on the development of a shared vision and a shared vision can create higher levels of engagement. The link between a leader's vision and engagement is the topic of many research projects and the subject of much controversy (Kouzes & Posner, 1995). The inspiring a shared vision score (ISV) is measured on a continuous scale with a range of 6 to 60. The score comes from calculating the sum of questions 2, 7, 12, 17, 22, and 27 from the LPI questionnaire.

Smaller scores indicate the blue-collar worker possesses less of the inspiring a shared vision

leadership style while larger scores indicate the worker possesses more of the "inspiring a shared

vision" leadership style.

Enabling Others to Act

Enabling others to act is a process that fosters collaboration and the development of

strengths in others. Fostering collaboration often requires shared goals and building trust.

Strengthening people starts by giving power away, providing choices, developing competence,

assigning critical tasks, and offering visible support (Kouzes & Posner, 1995). Enabling others to

act helps develop individual leadership ability in those a person seeks to develop into leaders.

When a leader enables others to take actions, the leader is empowering employees to develop

into areas of greater responsibility. Enabling other to act provides leaders the opportunity to

evaluate the leadership ability of their employees (Kouzes & Posner, 1995). Enabling others to

act could be a critical step in the development of future leaders and developing an engaged

workforce. The exploration of a relationship between leadership ability and levels of engagement

could weigh heavily on enabling followers to act. The enabling others to act score (EOA) is

measured on a continuous scale with a range of 6 to 60. The score comes from calculating the

sum of questions 4, 9, 14, 19, 24, and 29 from the LPI questionnaire. Smaller scores indicate the

blue-collar worker possesses less of the enabling others to act leadership style while larger scores

indicate the worker possesses more of the enabling others to act leadership style.

Modeling the Way

Modeling the way is the process of setting an example and the planning for small wins.

Setting an example that others can follow by behaving in ways consistent with shared values is a

key component to developing followers (Kouzes & Posner, 1995). Achieving small wins

promotes consistent progress and builds commitment (Kouzes & Posner, 1995). Modeling the

way is the process of leading by example. Leading by example is one way to influence directly

organizational culture (Yukl, 2006). Leading by example is role modeling (Yukl, 2006). Through

role modeling, leaders can communicate their values and their expectations. Actions like

showing loyalty, self-sacrifice, and fulfilling needs that go beyond normal expectations help

develop the followership a leader needs to be successful. Role modeling is a way of exercising

referent power. Referent power is the process whereby a person influences others because of the

admiration others have for the person's behavior (Konter, 2009) Modeling the way is a powerful

force in developing future leaders (Kouzes & Posner, 1995). The modeling the way scores

(MTW) is measured on a continuous scale with a range of 6 to 60. The score comes from

calculating the sum of questions 1, 6, 11, 16, 21, and 26 from the LPI questionnaire. Smaller

scores indicate the blue-collar worker possesses less of the modeling the way leadership style

while larger scores indicate the worker possesses more of the modeling the way leadership style.

Encouraging the Heart

Encouraging the heart is the process whereby a person recognizes contributions and

celebrates accomplishment (Kouzes & Posner, 1995). Recognition can be a major contributor to

the success of many projects. The celebration of team accomplishments promotes team concepts

and engagement. Most people perform at a higher level when they are receiving encouragement

in the workplace (Landen, 2007). Most people receive a great deal of satisfaction and

empowerment through rewards systems. The seven elements of encouraging the heart include the

following: (a) set clear standards, (b) expect the best, (c) pay attention, (d) personalize

recognition, (e) tell the story, (f) celebrate together, and (g) set the example (Landen, 2007). Through encouraging, the heart leaders establish followers vested in following the leader (Kouzes & Posner, 1995). Encouraging from the heart requires the leader to open up his heart and mind to let people see the person he or she really is (Kouzes, 2003). Opening up personal true feelings and beliefs requires the leader to find his or her own voice to share with others the true nature of his or her inner self (Kouzes, 2003). Exposing a person's feelings and beliefs for review by a person's peers, followers, and associates can come with many risks. The risks associated with personal exposure can make the road to encouraging the heart undesirable for many leaders. The encouraging the heart score (ETH) is measured on a continuous scale with a range of 6 to 60. The score comes from calculating the sum of questions 5, 10, 15, 20, 25, and 30 from the LPI questionnaire. Smaller scores indicate the blue-collar worker possesses less of the encouraging the heart leadership style while larger scores indicate the worker possesses more of the encouraging the heart leadership style.

Application of Leadership

The term leadership has many definitions. Despite many definitions of leadership, some basic properties of leadership are consistent with most definitions of leadership. For generations scholars have asked these questions: What is leadership, who are the leaders, and what are the properties of effective leadership? The answers these scholars have discovered have often led to even more questions and many disagreements. A review of the literature finds a common definition of leadership as guiding and directing of a course and serving as a channel (Nahavandi, 1997). A leader is a person who commands authority and influence. Researchers have many definitions of leadership and many of these definitions share some common

properties. Three of these shared properties are as follows: Leadership is a group phenomenon; leadership is goal directed, and is hierarchal within a group (Nahavandi, 1997). Several common attributes of leadership include leadership only takes place within a group and the premise that a person cannot be a leader if he or she does not have followers (Nahavandi, 1997). With the common attributes of leadership in mind, generally, leadership is an interpersonal form of influence or persuasion. Leadership is goal directed as leaders seek to influence and guide followers to a specific course of action or in the direction of achieving specific goals (Starratt, 2004). Leadership is often hierarchal within a group (Starratt, 2004). Dispite the hierarchal nature of leadership the leadership process can be informal and flexible.

The Role of the Knowledge Worker Leader

In many cases, a follower can lead not only himself or herself; he or she can lead others. Some researchers have suggested that the future of leadership is in combining vertical and shared leadership in the knowledge workforce. Knowledge work is becoming increasingly team based and dependent on the belief that no single person can expect to have the knowledge necessary to meet the needs of the highly complex modern global business economy (Pierce, 2004). Many of the traditional ideas of leadership are based on the perception that one person is firmly in charge whereas the rest in the team are simply followers. In the modern workforce, researchers have found shared leadership to be very successful and teams that do not share leadership tend to be low performers (Pierce, 2004). The development of a more appropriate model of leadership in the age of the knowledge worker is required (Pierce, 2004). A new leadership module could place the knowledge worker in a unique position of personal and professional leadership.

The Knowledge Worker Leadership Connection

To be successful in the knowledge economy a person must know himself or herself, their strengths, their values, and know their capabilities (Drucker, 2005). Today is an age of unprecedented opportunity if a person has the ambition and intellect he or she can become a leader in his or her profession independent of his or her background (Drucker, 2005). With opportunity for leadership comes the responsibility of the knowledge worker to take responsibility for his or her own personal and professional success. Knowledge workers need the skill to be their own chief executive officer (Drucker, 2005). The knowledge worker needs to lead not only their own efforts; he or she needs to work with others as a team to work toward a common goal. Sharing in the goals of a team requires that knowledge workers acquire the leadership skills necessary to lead, follow in a group, and lead themselves. The evaluation of the connection between the knowledge worker and leadership was at the core of the study.

Effects of Leadership

Effects of leadership are far-reaching and often go unseen by the casual observer. Leadership behavior is a key element to follower and organizational success (Yukl, 2006). People who select the path of leadership often alter the paths of those they lead and those they influence in unexpected ways. In the modern workplace, leadership is no longer limited to traditional business leadership roles. Leaders come from different levels of the organization including the blue-collar workforce. Today teamwork accounts for up to 30% of the average executive's workday (Bateman & Snell, 2009). Effective teams often require team members to possess the skills and abilities necessary to lead problem resolution (Bateman & Snell, 2009). Joint problem resolution leads to employee engagement (Bateman & Snell, 2009). The

identification and development of leaders could be one of the most critical components to organizational and personal success.

Challenges of Leadership

A review of the literature supports the position that the challenge of leadership comes in the form of adaption, change, and evolution. Every person in the chain of leadership experiences the story of leadership in his or her own unique way. Each person in the chain of leadership often shares some common factors that influence his or her leadership style including culture, gender, flexibility, and psychology (Nahavandi, 1997). Each of these factors influences how a leader leads. These factors can help guide a person's leadership direction. One of these directions is corruption. An inflated view of self is often the result of ignorance and the need to control others. Other characteristics that could lead to corruption include being rigid and inflexible, developing a sense of entitlement, a willingness to use and exploit others, a lack of empathy for others, viciousness, ruthlessness, obsession with power, and ingratitude toward others (Nahavandi, 1997).

The erosion of or lapses in moral and ethical behavior in an organization's leadership may results in low levels of trust and diminished authenticity from inside and outside the organization (Hesselbein & Goldsmith, 2006). To prevent or reduce the erosion of moral and ethical behavior requires the development of leadership based on principles of honor, duty, morality, and ethics starting the day an employee enters the workforce. Even with moral and ethical leadership, there is no guarantee that leaders will not give into corruption. Knowing the consequences of corruption, many organizations have developed a process that helps reduce levels of corruption. "Leadership without engagement simply cannot be sustained, and

eventually results in burnout or in compromised work" (Hesselbein & Goldsmith, 2006, p. 269). The lack of ethics in leadership is prevalent in every social activity around the world (Hesselbein & Goldsmith, 2006). Identifying the relationship between employee leadership and engagement could provide many organizations the opportunity to develop moral and ethical leaders.

Two significant challenges to leadership are commitment and personal responsibility. Researchers and scholars have identified a direct link between high levels of motivation and commitment (Sergiovanni, 2000). Both commitment and motivation are the ultimate responsibility of the individual. Unfortunately, many people shun personal responsibility and commitment. Without personal commitment and responsibility, goals and objectives are extremely difficult to achieve and the results of empowerment are superficial (Short & Greer, 2002). The investment in sharing of power provides rewards and increased levels of power for everyone involved (Sergiovanni, 2000). Relinquishing power to others is a difficult and often impossible quest. If a person is unprepared for leadership the power and influence a person receives has a high likelihood of resulting in misuse or abused.

Knowledge Worker Culture

Worker cultures are in a steady state of change. A change in worker culture often takes the shape of a knowledge workforce. The dynamic change in the economy and the nature of work has led to redefining career and work (Thomas, Faulkner, & Gray, 2009). Today there is a need for a workforce that has the skills and knowledge necessary to meet the challenges of the knowledge-based economy (Thomas et al., 2009). To meet the knowledge-based economy challenge requires an engaged knowledge worker. Knowledge workers do not always come from Ivy League universities or develop complex mathematical formulas. Knowledge workers

represent the frontline leaders of the new knowledge economy (Hesselbein & Goldsmith, 2006). Leadership in the age of the knowledge worker requires the discovery and release of a person's inner voice independent of formal position (Starratt, 2004). In the knowledge worker culture the worker seeks out his or her leadership and inspires others to find his or her own voice (Hesselbein & Goldsmith, 2006). The knowledge worker culture is one in which people communicate to others his or her own self-worth and potential so clearly that his or her future is nearly limitless (Hesselbein & Goldsmith, 2006). A review of the literature finds that the knowledge worker is an emerging force in the emerging knowledge economy (Hesselbein & Goldsmith, 2006). Today the knowledge worker is the source of many organization's creativity and innovation (Starratt, 2004). In a work environment where the worker is the source of an organization's primary competitive advantage the balance of power between the worker and the organization's leaders could be starting to change. Many organizations see the knowledge worker as the key to unlocking the secret to enticing and actively seeking potential workers away from the competition (Henard & McFadyen, 2008). Through leadership, the knowledge worker achieves the power to command and not just to serve others (Starratt, 2004).

Work Engagement

Work engagement goes by many names and in the busy work environment can go unnoticed by managers and leaders. Investments in human resources represent many organizations's largest investment (Bassi & McMurrer, 2007). For some organizations, people represent the organization's most significant competitive advantage (Bassi & McMurrer, 2007). Traditional methods of measuring employee performance often fail to predict organizational performance (Bassi & McMurrer, 2007). Researchers have discovered a statistical correlation

between organizational outcomes and employee engagement (Little & Little, 2006). Understanding workplace engagement could provide an organization the opportunity to develop and retain employees and in turn provide the organization a competitive advantage.

Defining Engagement

The Gallup Organization, a leader in engagement research, coined the term "employee engagement" (Little & Little, 2006). A review of the literature finds that the exact definition of engagement varies throughout the research and academic community. Some researchers define engagement as the individual's involvement, satisfaction, and enthusiasm for work (Fisk, 2008). Other researches define engagement as the commitment to an organization in terms of loyalty, integrity, pride, passion, energy, and citizenship behavior (Little & Little, 2006). Despite engagement having many definitions many of these definitions include properties linked to emotional, behavioral, and cognitive factors (Conner, 2009). These three factors relate directly to what people feel, think, and do (Conner, 2009). These definitions present engagement as an important part in organizational productivity, profitability, safety, and success (Fisk, 2008). Many researchers agree that engagement is not just a fad term and that engagement requires further research to be adequately understood (Fisk, 2008)

Historical Perspectives of Work Engagement

A review of the literature finds that the history of engagement goes back through many centuries and it has gone by many names. One of the most popular of these names is motivation. One of the best-known motivational models is Abraham Maslow's hierarchy of needs (Bowditch & Buono, 2005). The introduction of Maslow's hierarchy of needs concepts occurred in a paper entitled *A Theory of Human Motivation* in 1943 (as cited in Bowditch & Buono, 2005).

Maslow's hierarch of needs theory indicates people need to fulfill certain basic needs before progressing to other needs. Maslow identified five levels of human need, each requiring satisfaction one at a time before moving to the next level. Maslow identified the five needs to include psychological, safety, love, esteem, and self-actualization (Maslow, 1943). Maslow's hierarchy of needs establishes the fundamental framework of workplace engagement, which is, meeting a human's hierarchy of needs. Maslow (1943) stated, "Man is a perpetually wanting animal…the average member of our society is most often partially satisfied and partially unsatisfied in all of his wants" (Maslow, 1943 p. 18). The wanting state of human existence indicates that in identifying employee needs and understanding the hierarchy of human needs, an organization could capitalize on employee workplace engagement through efforts to satisfy these needs.

Douglas McGregor developed two philosophical views of humankind in 1960 designated theory X and theory Y (McGregor, 1960). Theory X addresses management's role in coercing and controlling employees. Theory X documents support for the belief that people have a general dislike for work and seek to avoid work, require cohesion, need controlling, require threatening with punishment to perform, prefer to be directed, do not seek responsibility, and seek security above all else (Schein, 2004). Theory Y addresses the development of the potential of employees. Theory Y is a source of support for the belief that work is natural and people will exercise self-direction if they are committed to objectives (Schein, 2004). Often commitment finds a direct link to rewards. People can learn to accept and seek responsibility if rewards are sufficient. People are creative, imaginative, and have the ingenuity necessary to solve organizational problems (McGregor, 1960). Theory Y supports the theory that people have potential and theory X supports the theory that people need direction. Both of these theories

support the belief that relationships drive employee commitment to organizations through seeking outlets for employee involvement, contributions, and satisfaction. The goal of workplace engagement is to develop these outlets and develop employee feelings of security.

Humans have the unique ability to anticipate the future and adapt their behavior accordingly. Victor Vroom developed expectancy theory in 1964 (Jex, 2002). Expectancy theory studies the uniquely human behavioral characteristic and examines the cognitive decision-making   processes that drive employee efforts. Expectancy theory forwards the proposition that employees will put out more effort if they believe that effort will translate into higher levels of performance and these higher performance levels would lead to valued outcomes (Jex, 2002). Viewed from the expectancy perspective the assumption is job satisfaction and engagement should play an important part in increasing job performance. A further assumption is job satisfaction and workplace engagement is the result of job performance. The expectancy perspective implies that organizations are much better off not by attempting to make people happier but rather in developing skills that improve employee performance and linking that enhanced performance to rewards.

In 1990, Kahn presented the concept of workplace engagement, which supports the existence of a relationship between workplace engagement and organizational performance (Kahn, 1990). Kahn suggested that in understanding the constructs of job involvement, organizational commitment, and intrinsic motivation a greater understanding of employee perceptions of himself or herself, his or her work, and his or her organization could be achieved (Harter et al., 2002). Kahn's research built on previous studies to establish the concept of workplace engagement and disengagement.

Characteristics of Work Engagement

Employee engagement is the degree to which employees are involved and committed within his or her organization (Konrad, 2006). Engaged employees generally share a sense of energetic and effective connection between themselves and their jobs. Workplace engagement is a positive, fulfilling, work-related state with three distinct characteristics: vigor, dedication, and absorption (Schaufeli & Bakker, 2002). Vigor is associated with high energy levels, mental resilience, organizational commitment, and persistence in the face of adversity (Schaufeli & Bakker, 2002). When applied to workplace engagement vigor represents matching organizational goals and desires with that of the employees. The alignment of employee and organizational goals and objectives provides the organization the opportunity to meet the employees' need for self-actualization. Needs for self-actualization are drivers of invention and creativity such as a poet's need to write, a painter's need to paint, and a knowledge workers need to produce value. Achieving needs produces in many people high levels of satisfaction and happiness.

Dedication is the characteristic in the employee demonstrated by a strong involvement in a person's work and strong sense of significance, enthusiasm, inspiration, pride, and challenge (Schaufeli & Bakker, 2002). Dedication creates a bond between the employee and the organization that helps establish and maintain a strong and successful relationship potentially stronger than those established through financial compensation alone. Absorption is a characteristic of engagement illustrated by high levels of workplace concentration with workers happily engrossed in their work. For such workers time in the workplace passes rapidly and they have difficulty fully detaching themselves from their work (Schaufeli & Bakker, 2002). Each of these three characteristics of engagement enable in an employee high levels of energy and a

strong identification with his or her work. The Utrecht Work Engagement Scale (UWES) used in the study includes vigor, dedication, and absorption as aspects of work engagement.

Drivers of Work Engagement

Employee engagement often loses importance when overshadowed by the challenges faced by many leaders in the global business economy. As workplace tasks become more specific and repetitive, some leaders assume little need for change exists. The perception of little need for change by leaders could lead to employee disengagement. In a Gallup poll conducted in the United States, survey researchers found only 29% of employees actively engaged or committed in the workplace (Fisk, 2008). In a Corporate Leadership Council study researchers found that, committed employers work 57% harder, perform 20% better, and are 87% less likely to leave the organization (Fisk, 2008). These numbers stand as a reminder of the possible consequences of not maintaining a focus on employee engagement. The quantification of the financial impact of employee engagement is evaluated using value driver analysis to establish a cause-effect relationship between employee engagement and retention, profits, and growth (Fisk, 2008). A study conducted at Sears Roebuck, an international retailer, was one of the first to evaluate the impact of engagement and profits (Fisk, 2008).

The Sears study published in the Harvard Business Review documented a 5% increase in employee attitude drove a 1.3% improvement in customer perceptions, which drove a 0.5% increase in revenue growth (Fisk, 2008). The Harvard study's result indicates to researchers that even a marginal increase in employee satisfaction could be worth, in large organizations, $100 million to the organization's bottom line (Fisk, 2008). In a 2006 study conducted by the Hay Group researchers found that by simply improving the relationship between organizational

leaders and employees, the organization could deliver a 30% improvement in productivity (Fisk, 2008). Stanton Maris, an organization that specializes in helping companies to high levels of engagement and performance, has established five drivers for achieving engagement and performance (Fisk, 2008). The first of these drivers is being open. To be open requires the organization's leaders share the organization's strategic challenges with their employees (Fisk, 2008). In the second driver, opening up, the organization's leaders seek to have every organizational stakeholder involved in organizational development and encourage stakeholder participation and suggestions (Fisk, 2008). The third driver, letting go, provides support for the belief that leaders need to give employees the freedom to contribute to organizational success (Fisk, 2008). Driver number four, supportive, encourages leaders to continuously and consistently show interest in the needs of the employee (Fisk, 2008).The fifth driver, maintaining focus, is monitoring employee progress and holding on to the big picture (Fisk, 2008). Maintaining focus or driver can be one of the most difficult to achieve and maintain if leaders or employees become complacent or the organization's business objectives start to overshadow the need for employee engagement.

Effects of Workplace Engagement

Workplace engagement is an important element of organizational success. Employee engagement is a link in an organization's chain to financial success. Workplace engagement helps keep employee negative emotions in check. Engaged employees often feel more confident about their work. People need to feel pride and optimism and to have some level of certainty about the work they do (Tower Perrin, 2003). Engaged employees often feel more competent in their work. A high level of proficiency at a person's job often bolsters confidence and enables

both the organization and the employee to achieve personal and professional goals (Tower

Perrin, 2003). Organizational leaders need to empower employees to develop their job skills to

establish job confidence. The development of a person's personal and professional skills should

not be limited to job specific skills. Personal and professional development should include the

development of interpersonal skills through the development of leadership and team building

skills. Engaged employees often have a feeling of being in control (Tower Perrin, 2003).

Employees generally have a need to feel that they are in control of both their personal and

professional lives. To achieve control employees often require training and empowerment.

Engaged employees feel a part of the work community. People's positive emotions are an

important part of how they work and how they interact with others (Tower Perrin, 2003).

Positive emotions often result in collaboration, teamwork, and shared goals (Tower Perrin,

2003).

     Engaged employees are less likely to leave the organization when opportunities become

available. The exodus of the organization's best and brightest could leave an organization

vulnerable to their competition. Engaged employees are 87% less likely to leave an organization

(Fisk, 2008). When an employee is engaged in his or her work he or she is more likely to focus

on customer needs over his or her own. Researchers have found that with as little as a 5%

increase in employee engagement, customers' perceptions improved by 1.3%, which can drive

revenue growth by at least 0.5% (Fisk, 2008). For any organizations a 0.5% growth in could

represent more than $100 million increase to a large organization's bottom line (Fisk, 2008).

Engaged employees try 57% harder and perform 20% better than other employees (Fisk, 2008).

Organizations always have had difficulty with people management issues. People management

issues often result in substantial losses in revenue and productivity. In the worst of times, what

drives people is passion. What drives innovation is passion. What drives success is passion. People will exceed expectation, deliver uncompromising quality, and demonstrate extraordinary creativity for the dream of downstream rewards. A dream of downstream rewards could be the promise of workplace engagement for both employee and the organization. For many the dream of downstream rewards is influence by levels of personal and professional engagement.

Personal Responsibility

Taking personal responsibility for actions, inactions, and personal happiness could be an important ingredient to engagement. Personal responsibility is a rare commodity in society (Alyn, 2010). Extraordinary leaders take on the challenge of personal responsibility even when no one else is willing (Alyn, 2010). People need to take personal responsibility for actions, inactions, and social environmental conditions for success through individual, organizational, and social change (Socha & Cowan, 2009). Finding employees with leadership potential and exploiting that potential could be the most important factor in achieving and sustaining workplace engagement.

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Distinguishing Between Work Engagement and Related Concepts

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Work engagement does not stand alone as a theory to develop a more productive and efficient workforce. Some terms share similar goals and often share similar meanings. Some of these terms include job satisfaction, self-efficacy, motivation, devotion, and even servitude. Each of these terms directs one to accomplish tasks. Even with the best of intent simple accomplishments, do not equal long-term success. The pyramids of Egypt are among the seven manmade wonders of the world and stand as a testament of the power of human effort. Pyramids also stand as a testament to the abuse of power and the self-gratification of a single

person (Kishlansky, Patrick, & O'Brien, 2005). The pyramids house the remains of kings, revered as gods, and their people were simply the cattle of the gods (Kishlansky, Patrick, & O'Brien, 2005).

Job Satisfaction

Job satisfaction often relates directly to an employee's level of positive feelings for his or her job (Jex, 2002). Health researchers have discovered a link between job satisfaction and mental and emotional well-being (Brinkman, 2010). The link between mental health and job satisfaction highlights the importance of providing opportunities for employees to maximize his or her potential. The cognitive component of job satisfaction is belief in job or job situation. The behavioral component of job satisfaction includes a person's tendencies toward his or her job. Some indicators of employee engagement include work attendance, how hard he or she works, and how long he or she has worked with an organization. The behavioral component of job satisfaction is much more difficult to gauge because a person's attitudes are not always consistent with a person's behavior. One of the problems with assessing a person's job satisfaction based on job attendance or time with a company is that the employee's attendance and longevity could be the result of financial considerations and not job satisfaction. In the simplest terms job satisfaction is the ratio between perceived value and received compensation (Jex, 2002).

If a relationship is positive, an employee will achieve satisfaction; if the relationship is negative, employees may feel unsatisfied. Job satisfaction also can be a product of an employee's feelings or state of mind. A person's feelings or state of mind can change with the simplest of events. Therein is the problem with job satisfaction. Levels of job satisfaction often

vary directly by the quality of relationships or the quality of a person's physical environment. Job satisfaction is generally difficult to assess and often focuses on outcomes unlike engagement, which predicts satisfaction. Job satisfaction may also have very little to do with job performance unlike engagement in which performance is a measure of engagement (Fisk, 2008)

Employee Commitment

Many often confuse the term commitment with engagement. The literature identifies distinguishable differences between the terms commitment and engagement. One definition of employee commitment within the workplace is "The degree to which an individual identifies with an organization and is committed to its goals" (Little & Little, 2006, p. 116). Some authors of engagement literature parallel the term commitment with loyalty, productivity, and ownership (Little & Little, 2006). The commitment literature provides some insight into the alignment between commitment and organizational strategies. Some researchers suggest that there is a strong relationship between organizational commitment, work attitudes, and behavioral outcomes (Gagnon, Jansen, & Michael, 2008). Researchers have discovered through empirical research a correlation between commitment and employee performance (Gagnon, Jansen, & Michael, 2008). The correlation between commitment and performance indicates that the development of employee commitment strategy can produce positive outcomes. The terms commitment and engagement, for many, represent the same perspective on employee workplace involvement. Commitment is the measure of an employee's feelings of responsibility for the success or well-being of his or her organization (Noe et al., 2003). Engagement incorporates commitment along with other elements that produce excitement and

enjoyment of a person's work (Noe et al., 2003). In the simplest of terms, engagement is a deeper, richer form of commitment that helps drive employee performance and productivity.

Job Involvement

The use of the term "job" involvement is associated with the measure of how preoccupied, engaged, and concerned an employee is with his or her job (Little & Little, 2006). Job involvement is one of the primary determinants of organizational effectiveness (Little & Little, 2006). Job involvement aligns closely with job performance, organizational citizenship behavior, and job ownership (Little & Little, 2006). In many cases, job involvement is synonymous with engagement (Little & Little, 2006). High levels of job involvement link with efficient organizational outcomes. Many researchers connect high levels of involvement with key elements of positive job satisfaction, organizational commitment, and intrinsic motivation (Kreitner & Kinicki, 2004). Many researchers consider job involvement as an important component in improving employee job performance (Kreitner & Kinicki, 2004).

Current Research on Engagement

The study of workplace engagement is and continues to be a work in progress. Many researchers have suggested that workplace engagement is one of the key elements in employee and organizational success. Employee engagement is a term coined by the Gallup research group and has found widespread acceptance in the research community as an area of research that needs further study (Little & Little, 2006). The definition of employee engagement from the work conducted by the Gallup researchers is "the individual's involvement and satisfaction with, as well as, enthusiasm for work" (Little & Little, 2006, p. 2). Researchers have found a statistical relationship between workplace engagement and an organization's productivity, profitability,

employee retention, safety, customer satisfaction, and constructs like job satisfaction and commitment (Little & Little, 2006). In a study conducted in 2003 by Towers Perrin, which included more than 35,000 employees in U.S. companies with at least 500 workers, researchers discovered a link between engagement and organizational performance (Towers Perrin, 2003). In the Towers study, researchers discovered that organizations with highly engaged workers on average experience at least a 1% increase in revenue growth above industry averages (Towers Perrin, 2003). Researchers in the Towers study also discovered that organizations with highly engaged employees experience lower cost of goods sold compared to the Dow Jones' industry sector averages (Towers Perrin, 2003).

A significant majority of employees are seeking to make a difference in their organization and in the world. Workplace engagement requires the participation of both the employee and the employer. The unique opportunity of the employer is to direct employees toward engagement by helping employees fulfill his or her need to make a difference. One way employers can achieve fulfillment is through leadership development. In Mary Parker Follett's 1924 book, *Creative Leadership*, she suggested, "Leadership is not defined by the exercise of power, but by the capacity to increase the sense of power among those who are led; the most essential work of the leader is to create more leaders" (as cited in Towers Perrin, 2008, p. 11). Today organizations face the unique challenges of an evolving global economy. In the last few years, the world has faced a sharp rise in terrorism, a volatile economy, and growing tensions among nations in the fight to address global terrorism (Towers Perrin, 2008). If these challenges were not enough, the world faces the challenges of global warming, an expanding population, escalating pollution levels, lower crop production, a reduction in marine life, and an inadequate supply of fresh water to meet the needs of the world's population (Tillett, 2009). To respond to

these and the challenges to come, organization leaders need employees with the skills, creativity, desires, and leadership abilities necessary to meet these challenges head-on and deliver successful solutions. Successful solutions require an engaged workforce not restrained by the need for simple self-gratification. A successful solution is the potential of an engaged workforce.

HVACR Industry Background

The principles of HVACR are at the center of human existence and are key elements to human social, economic, and cultural evolution. Technically the human body has an HVACR system that keeps a person comfortable and alive. The human body is an HVACR system that uses the same principles of energy transfer as those used to cool homes, cars, and meet the needs of business. These principles include conduction, convection, and radiation. Conduction is the transfer of energy in the form of heat energy through matter (Sugarman, 2007). If a person puts his or her finger into a hot cup of coffee, the heat from the coffee conducts from the molecules in the coffee to the molecules in one's finger and one screams out in pain. Conduction is the transfer of energy through both solids and fluids (Sugarman, 2007).

Convection is the transfer of energy by mass motion of a fluid such as air or water (Sugarman, 2007). Normally convection occurs in the body when a person's body temperature is higher than the surrounding air. As the hotter, less dense air around a hot body rises, the less dense (cooler) air around a person rises causing convection currents, which transport the heat energy away from a body (Sugarman, 2007). In radiation, the final method of heat transfer, heat transfer takes place through the emission of electromagnetic waves, which carry energy away from a high-energy object (Sugarman, 2007). One example of radiation is the energy from the sun. Sunlight is an example of heat transmitted though time and space and gives people

sunburns. If a person puts his or her hand in front of a lamp, the heat a person feels is radiation energy. When a person becomes very hot, one's body will radiate heat. The three forms of heat transfer are the same key elements of heat transfer used in the human body's temperature regulation system and those used to heat and cool homes, cars, and businesses. HVACR then is simply the transfer of heat using conduction, convection, or radiation just as the human body does. In the case of the HVACR industry, to heat requires more energy, to cool requires energy removal, and ventilation acts to get the heating, cooling, and fresh clean air to the needed space or area. Mastery of HVACR requires the skills of a knowledge worker.

The history of the HVACR industry started with the use of ice by the ancient Chinese to preserve food and continued though the Hebrews, Greeks, and Romans to the modern times (Thevenot, 1979). Ice was used as a primary form of cooling until the turn of the twentieth century when Willis Carrier developed the first modern air conditioning system in 1911 (Thevenot, 1979). Through the years, the skills necessary to install, service, and maintain modern HVACR equipment have grown in both scope and complexity. Energy costs reached a record $1 trillion in the United States in 2006; more than a $200 billion increase from the previous year (Westerkamp, 2008). A report from the National Academy of Sciences (NAS) has expressed a deep concern that in the expanding global market the scientific and technology building blocks critical to the American economy are beginning to crumble (Colker, 2007). About every 7.6 seconds, an American worker turns 50 (Swenson, 2008). By 2030, 76 million skilled American workers will leave the workforce (Swenson, 2008). Expectations are over the next 5 years existing trends in the American skilled workforce will create a serious talent gap in the workforce (Swenson, 2008). The HVACR industry is in a state of unprecedented change. Today's industry demands for increased energy efficiency, reliability, and control combined with

the dwindling technician pool has left many organizations incapable of meeting the needs of their customers. Service technicians spend many years developing their skills through formal education, apprenticeship programs, mentoring, and on-the-job training (Green, 2006). The scope and complexity of these skills along with the time, dedication, cost, and self-leadership necessary to master these skills make those who have mastered some aspects of these skills a highly sought after commodity in the HVACR service industry. Development of a system that provides employers the opportunity to maximize their efforts in attracting, retaining, and engaging these very valuable employees could be the determining factor in sustaining an industry competitive advantage.

Conclusions

A review of the literature has exposed the complexity of both leadership and engagement and how each of these critical elements to organizational success may link to each another. The study of leadership started in the earliest days of recorded human history and the term often is associated with powerful and dynamic individuals who have commanded great armies, led great nations, and accomplished great acts of personal and professional success (Yukl, 2006). A review of the literature indicates that there is much more to leadership than the domination of one person or group. The literature provides researchers evidence that, in the simplest terms, leadership is about the management of energy (Clawson, 2006). Successfully managing leadership energy starts first with managing personal energy and expands to the management of the energies of those around a person (Clawson, 2006). High energy levels are associated with both leaders and engaged employees. The literature further provides documentation that anyone can be a leader. Some simply choose not to take the leadership path (Clawson, 2006).

One of the key challenges that many organizational leaders face in competing successfully in the global economy is the challenge of change. The world is in a constant state of dynamic change. The speed and impact of change is most noticeable when viewed from the perspective of effective leaders in the global economy (Clawson, 2006). The leadership principles that helped guide the world through the Industrial Revolution are giving way to new principles based on new assumptions about people, economics, and organizational structure (Clawson, 2006). A failure to understand new emerging realties of leadership in the global economy could leave many unprepared to meet the global business challenge. To meet the leadership challenges imposed by a global economy may require a new type of leader, one unencumbered by old leadership paradigms. To understand these new leadership needs one must start by understanding what it is to be human. During the first 9 months of human existence, a person is in near total dependence on another for life. From birth, each new human is dependent on others to sustain that life. After about 3 to 6 months, humans start to develop the individuality that for the first time in their existence will allow them to form their own unique identities (Clawson, 2006). These unique identities could represent the greatest opportunities for organizational success. Throughout the human experience, humans expect to have their needs met (Maslow, 1943).

Some of the key human needs include the need to belong, the need for affection, the need for esteem, and the need for self-actualization (Maslow, 1943). The literature supports that from these needs comes the desire to lead and the power of engagement (Bowditch & Buono, 2005). Successful organization leaders understand that empowering leaders at all levels of the organization, including those who have no direct reports, enables organizational success (George, Sims, McLean, & Mayer, 2007). Leaders both inspire and empower those around

them to step up and lead (George et al., 2007). Investigating the relationship between perceived leadership and engagement, the direction of the study could help to expand the literature on both leadership and engagement into areas in which little data is available.

Summary

Chapter 2 presented a comprehensive review of the literature relative to the study's goals and objectives and presented the study's theoretical framework. The general problem presented in Chapter 2 was many HVACR contractors face a shortage of qualified technicians to meet the needs of their customers (Hall, 2007). The specific problem of the study was despite the extensive research into leadership and engagement, little knowledge about the relationship between leadership and workplace engagement among HVACR service technicians exists. The major categories for Chapter 2 included leadership and engagement. Researchers have developed many definitions of leadership and have established many leadership theories throughout the history of leadership. Today many of these definitions and theories could be facing the challenge of change. In today's global business environment, some of the factors changing established leadership practices and theories include technology, the Internet, methods of communication, customer expectations, employee expectations, and the increasing complexity of the global marketplace (Hesselbei & Goldsmith, 2006).

Although most researchers continue to maintain the study of leadership is the path to both personal and professional success, many are convinced that an understanding of engagement is the key to success in the new global economy. Researchers have discovered that an engaged workforce can produce higher levels of performance and prosperity within an organization (Little & Little, 2006). Today the challenges faced by many organizations and individuals to succeed in the global economy will require unprecedented leadership and engagement from each of the

organization's employees. Employee engagement shares a close relationship with productivity, safety, performance, and motivation and can act as a positive force in an organization's culture (Little & Little, 2006). Leadership is essential to the development and channeling of organizational energy. Through a better understanding of the relationship between leadership and engagement comes the potential of increased employee and organizational performance. Chapter 2 included a review of the literature to help develop an understanding of the key elements of the study.

Little, if any, evidence exists to support the idea that people are self-sacrificing. Self-sacrifice is a voluntary act that, according to Darwin, is motivated by self-interest (Darwin, 1979). If self-sacrifice existed outside the realm of human desire, Darwin's theory of natural selection would have no support. Darwin suggested a link between self-sacrifice and self-interest (Darwin, 1979). To ensure species survive, the species must look beyond the confines of self. Humans historically have demonstrated unbelievable acts of self-sacrifice. The Darwinian model explains these self-sacrifices as consistent with the nature of human survival (Darwin, 1979). People need to protect and service those who support their existence. The promotion and development of leadership skills in employees may be consistent with the Darwinian model and as a result, promote the motivation necessary for employee engagement; Chapter 3 details the research methodology used in the quantitative, correlation study. Chapter 3 includes the appropriateness of the research design; details on the study population; details on the study instruments; the data collection, analysis processes, and the accuracy, validity, and reliability of the study test instruments. The third chapter sets the foundations on which the study's data collection and analysis structure rests.

Chapter 3: Research Method

The purpose of the quantitative, correlation research study was to evaluate if a relationship existed between perceived leadership ability and workplace engagement among blue-collar workers in the United States. An analysis of the study's variables, perceived leadership ability and engagement, required the distribution of a survey to HVACR technicians in California. In Chapter 3, a review of appropriateness of the study's research methods and study instruments takes place. Within Chapter 3, an examination of the study population, processes, and procedures takes place.

The world economic, social, and political globalization could overshadow every previous social, political, and economic revolution in recorded history. The global economic revolution may require organizations to develop new leadership paradigms that embrace the distribution of power, the development of new leadership methodologies, new environmentally friendly practices, and the development of global citizenship. These demands may require a new understanding of the relationship between leadership and engagement. The study's data help expand the knowledge of leadership through exploring the relationship between leadership and engagement. The first two chapters of the study document leadership ability and workplace engagement characteristics. An examination of the conceptual models for the study take place in Chapter 3 and focuses on the methodology used to examine the possible correlation between the independent variables of leadership ability and the dependent variables workplace engagement. In Chapter 3, a review of the study's research method and design appropriateness, the research questions, the study population, study population consent, study confidentiality, study participant

geographic location, study instrumentation, data collection and analysis, and study issues of validity and reliability takes place.

Research Method and Design Appropriateness

Research is a process through which a person seeks to find answers to specific questions (Ghauri & Gronhaug, 2005). In research, there is an important distinction between being accurate and being reliable. Accuracy describes if a measurement is correct, whereas reliability refers to if a measurement is consistent (Marczyk, DeMatteo, & Festinger, 2005). In research, data can have a high level of reliability and a low level of accuracy. Influences to study data by intellectual capacity, human abilities, human behavior, technological capabilities, or the availability of uncorrupted data could limit the study's accuracy. Just as human behavior influences study variables, there is a very high probability that no combination of variables influences all persons in the same manner or influences human behavior the same way in all possible conditions (Marczyk et al., 2005). The infiniteness of possibilities indicates that there exists no universal truth (Marczyk et al., 2005). The absence of any universal truth makes it critical to examine between-variable interactions to describe causal relationship (Marczyk et al., 2005).

Each of the previously mentioned extraneous influences, variables, and conditions could put into question the validity of a study. In general, the purpose of research methodology is to increase the accuracy and usefulness of studied discoveries by eliminating or controlling as many confounding variables as possible, which increases the validity of a study (Marczyk et al., 2005). The validity of a study links directly to the study's research methodology (Marczyk et al., 2005).

The study was a quantitative correlational study in which the researcher examined the relationship between perceived leadership ability and workplace engagement. Quantitative research is a process through which tallied, manipulated, or systematically aggregated data

establishes the answers to study questions and hypotheses (Hinkel, 2005). A quantitative

research study makes use of statistical analysis to obtain discoveries (Marczyk et al., 2005). The

study included two quantitative tools to evaluate the relationship between perceived leadership

ability and engagement. The Leadership Practices Inventory (LPI) tool provides validation of

study participants' perceived leadership ability. To evaluate study participant engagement levels

the Utecht Work Engagement Scale (UWES) instrument was a good fit for study requirements.

The variables in a quantitative study can vary in magnitude depending on their relationship with

other variables (Marczyk et al., 2005). An assessment of the relationships between the study

variables started with the use of the LPI and UWES tools. Both the LPI and the UWES tools are

survey instruments that require quantitative answers to the survey instrument's questions. The

variables in the study and the study tools dictated the use of the quantitative research method.

Statistical validity, also referred to as statistical conclusion validity, is a quantitative evaluation

of the accuracy of conclusions drawn from the results of a study (Marczyk et al., 2005).

Statistical procedures test the relationship between two or more variables and determine if study

sample observations are indicative of the truth about the population of interest or the result of

other factors (Marczyk et al., 2005). Statistical validity simply addresses the question of the

reasonableness of the statistical conclusions of a study (Marczyk et al., 2005). The study includes

data on the statistical relationship between perceived leadership ability and engagement and uses

statistical conclusion validity to increase the accuracy and usefulness of the study's discoveries.

The goals, objectives, and design of the study made the study a good fit for using quantitative

research methodology.

Qualitative research is a type of research that asks broad, general questions, collects data

consisting largely of words or text from study participants, then analyzes these words for terms

(Creswell, 2005). The study survey designed enables specific responses to specific questions. Survey tool design provides variable numerical values that serve as a representation of the participant's level of perceived leadership ability and engagement. The study's tools do not permit the analysis of words. Study tools enable analysis of the degree to which study participants meet the study tool's level of excellence. The study therefore was not in alignment with the presented definition of qualitative research.

Linear regression analysis is a statistical method used to estimate or predict the value of the study's dependent variable given the values of one or more independent variables in a study (Marczyk et al., 2005). In a multiple linear regression analysis, multiple independent variables help explain and predict the dependent variable (Marczyk et al., 2005).The purpose of using multiple regressions in a study is to make the study's research model more realistic, control other variables, explain more of the variance in the dependent variable, and increase the accuracy of a study (Ghauri & Gronhaug, 2005). Multiple regression analysis was justified in the study based on the study goal of evaluating the link between perceived leadership abilities and workplace engagement.

A correlational study examines the relationship among variables (Creswell, 2005). In correlation research, the goal is to determine if two or more of the study's variables have a relationship. The existence of a relationship alone is not proof of a cause and effect relationship or a predictability about the dependent variable based upon values of the independent variables (Marczyk et al., 2005). If a strong correlation exists between two or more of the study's variables, predictions, and cause-and-effect conclusions result (Marczyk et al., 2005). The justification for correlation research exists if a relationship exists between perceived leadership

ability and engagement using numerical data collected from the study's research tools for determining if a relationship exists between the study's variables. In the stud'y, the independent variable was perceived leadership abilities and the dependent variable was workplace engagement. The study independent variable supports using the LPI instrument to collect leadership abilities data from study participants. The UWES workplace engagement tool collects data on the study participants' workplace engagement. Study instruments complement the goals of the study. The study includes a demographics instrument to identify study participants' background. The demographic variables include (a) gender, (b) age, (c) education, (d) position; (e) experience, (f) location, and (g) type of service (see Appendix D).

Research Questions

Data collected in the quantitative study enabled the researcher to examine the relationship between HVACR technician blue-collar perceived leadership ability and workplace engagement. The overarching research question for the study was, "What was the relationship between perceived leadership ability and workplace engagement among blue-collar workers?" For the study, the operational definitions of leadership skills are the five transformational leadership styles measured by the LPI instrument. The research question was broken down into six subquestions listed below.

Research question one. What is the relationship between workplace engagement (WE) and the extent to which blue-collar workers possess a modeling the way leadership style (MTW)?

Research question two. What is the relationship between workplace engagement (WE) and the extent to which blue-collar workers possess an inspiring a shared vision leadership style (ISV)?

Research question three. What is the relationship between workplace engagement (WE) and the extent to which blue-collar workers possess a challenging the process leadership style (CTP)?

Research question four. What is the relationship between workplace engagement (WE) and the extent to which blue-collar workers possess an enabling others to act leadership style (EOA)?

Research question five. What is the relationship between workplace engagement (WE) and the extent to which blue-collar workers possess an encouraging the heart leadership style (ETH)?

Research question six. What is the extent to which blue-collar workers' modeling the way (MTW), inspiring a shared vision (ISV), challenging the process (CTP), enabling others to act (EOA), and encouraging the heart (ETH) leadership styles add independent information in predicting their level of workplace engagement (WE)?

These research questions served to guide the investigation into the existence of a relationship between the independent variable and dependent variable and the effects of the independent variables on the dependent variable. The first five questions specifically addressed the relationship between the study's independent and dependent variables. Research discoveries linked to these first five questions could provide researchers and organizations valuable insight into employee characteristics and behaviors that support sustainability and competitiveness in the global marketplace. The purpose of question six was to act as a tool to evaluate if a predictive model for employee engagement based on perceived leadership ability was feasible should a relationship exist between HVACR technician blue-collar perceived leadership ability and workplace engagement. The study's research questions added to the knowledge of both

leadership and engagement and could prove beneficial to research into the relationship between leadership characteristics and engagement.

Hypotheses

In the study, the critical hypothesis helps in the establishment of the study's direction (Vogt, 2007). The critical null hypothesis represents the default or general position of a study (Vogt, 2007). In the study the alternative critical hypotheses was the rival critical hypotheses to the null critical hypotheses (Vogt, 2007). The study tests the six statistically critical hypotheses using the study's instruments. For the study H0: represents the critical null hypothesis and Hal: represents the critical alternative hypothesis.

$H0_1$:   There is no correlation between the WE score and the MTW score.

Hal_1:   There is a correlation between the WE score and the MTW score.

$H0_2$:   There is no correlation between the WE score and the ISV score.

Hal_2:   There is a correlation between the WE score and the ISV score.

$H0_3$:   There is no correlation between the WE score and the CTP score.

Hal_3:   There is a correlation between the WE score and the CTP score.

$H0_4$:   There is no correlation between the WE score and the EOA score.

Hal_4:   There is a correlation between the WE score and the EOA score.

$H0_5$:   There is no correlation between the WE score and the ETH score.

Hal_5:   There is a correlation between the WE score and the ETH score.

$H0_6$:   The MTW, ISV, CTP, EOA and ETH leadership style scores do not add independent information in predicting the WE score.

Hal_6: The MTW, ISV, CTP, EOA, and ETH leadership style scores add independent information in predicting the WE score.

Population

The study's population was HVACR service technicians in the United States. According to Cohen (1988), small, medium, and large effect sizes for hypothesis tests about the Pearson correlation coefficient (r) are as follows: r=0.1, r=0.3, and r=0.5 respectively. A sample size of 213 produces 80% power to detect an effect size of 0.20, which was a small to medium effect size. For example, an effect size of 0.20 corresponds to a comparison of the null hypothesis that r=0.0 versus the alternative hypothesis that |r|>=0.20. For instance, if the true population correlation between WE and MTW was 0.20 or greater, the study has an 80% chance of detecting (i.e. achieving statistical significance) the correlation at the 0.05 level of statistical significance. Thus, a sample size of 213 was justifiable for detecting small to medium effect sizes. The power calculations performance required using the PASS 2008 software. A sample size of 213 achieves 80% power to detect an R-squared of 0.06 (which was a small to medium effect size) attributed to five independent variables (MTW, ISV, CTP, EOA and ETH) using an F-test with a significance level (alpha) of 0.05. Thus, a sample size of 213 was justifiable for detecting small to medium effect sizes for significant hypotheses one-six.

Sampling Frame

A target population or sampling frame is a group of people with some common defining characteristic that researchers are interested in (Creswell, 2005). To reduce coverage error a study must have an adequate sampling frame of the desired people. Sample size for the study was equal to the number of qualified respondents to the study's survey. In the study, the population was HVACR service technicians in California. In the United States, the population of HVACR service technicians is approximately 308,000 (U.S. Census Bureau, 2010). The HVACR population for the study is located in California and is 17,000 (SMACNA. 2009). A

sample size of 213 was justifiable for the study in detecting small to medium effect sizes for significant hypotheses one-six.

Informed Consent

To protect study data the selection of a secure, password protected Internet website was selected to design and implement the LPI, UWES, and demographic survey of the study. The study survey link took the form of an e-mail, hyperlink, printed, or digital text document to study participants. Before undertaking the survey, each study participant was required to enter a complex password. The informed consent form for the study required the participants to acknowledge they have read the consent form, have voluntarily agreed to participate, are at least 18 years of age, and are HVACR technicians. Study conditions acknowledgement was in the form of check boxes. If the disagree box was checked, the participant's responses are not included in the study. Each question in the study's survey included the option not to respond and at the end of the survey, participants could opt not to have their responses used in the study. Informed consent represents the researcher's attempts to protect the privacy and confidentiality of the of the study participants (Creswell, 2005). See appendix A for the informed consent form data.

Confidentiality

On the first and last page of the study survey participants viewed a full confidentiality letter assuring the confidentiality of survey data. The data collected in the study was stored in a secure database, only accessible by the researchers. Importing of results of the survey into a password protected Microsoft Excel document maintained study security. Survey data remained secure during the study and secured for destruction 3 years subsequent to the completion of the

study. Throughout the study process and after the completion of the study, all data are or will be accessible by only the researchers. Upon completion of the study, all soft data were deleted using the SDelete function preventing data recovery and hard copies of data were bidirectional shredded. In the study no information was collected that could be used to identify study participants. The online survey does not record participant location, IP address, NIC addresses, Domain, name, user ID, access source location, company, or any other information that is necessary to identify study participants. No survey questions could possibly identify study participants. The data collected from the study was password protected, encrypted with Microsoft Enhanced cryptographic 128 bit encryption along with other encryption methods listed in the previous paragraphs. A compromise in security by outside assistance used to edit research documents was not applicable for this study. When external assistants was required each assistant signed a confidentiality agreement to protect and secure study data to protect study participant confidentiality even though no information exists in the study that could be used to identify study participants.

Geographic Location

In the study, the target population was 213 HVACR service technicians in the California. The U.S. population of HVACR service technician population represents 308,000 workers (U.S. Census Bureau, 2009). In California the location of the study, the HVACR population is 17,000 (SMACNA. 2009). The participants for the study were located throughout the state of California. Study participation requests sent to Refrigeration Service Engineers Society (RSES), local unions, HVACR service managers, and development-training programs conducted in California prior to the study start date represented the requests for study participation. Study notification communication took the form of an e-mail, webpage notification, letter of notification, and direct

communication. Study deployment required the services of SurveyMonkey in an online

environment. The administration of the survey took place in the state of California.

Data Collection

Data collection is the process of identifying and selecting individuals for a study,

obtaining participants' consent for the study, and gathering information using survey questions.

The data collection process consisted of using a secure, password protected website that

contained the LPI, UWES, and demographic survey data. Owners of the LPI and UWES survey

instruments granted permission for the use of the tools in the study; see Appendix B and C for

survey permissions information. Survey design followed the same format as those presented by

the LPI and UWES surveys authors. Survey participants included HVACR service technicians in

California. Distribution paths for the study survey included RSES, union representatives, and

HVACR industry service managers.

The web-based survey instrument was stored on the SurveyMonkey system. A hyperlink

provided easy access to the study's survey to participants. Survey responses were stored on the

secure SurveyMonkey website server in a secure format. SurveyMonkey data were stored in a

secure location in the United States (SurveyMonkey, 2010). The SurveyMonkey location's

physical security included data storage in a locked cage, pass card and biometric recognition

security, digital surveillance, temperature, humidity, smoke and fire protection, and 24/360 on-

site staffing (SurveyMonkey, 2010). The SurveyMonkey tool network security included

redundant power systems, standby servers, and data on RAID 10 and operating systems on RAID

one data systems (SurveyMonkey, 2010). Software security includes SSL encryption, hourly data

backup, nightly backup of data in off-site location, secure SQL, and Windows Server operating systems (SurveyMonkey, 2010).

The Survey link and survey pages were SSL (Secure Sockets Layer) encrypted during transmission. SSL is a security method that works through a cryptographic system that secures a connection between a client and a server (Haag & Cummings, 2008). SSL enables encrypted URLs sent to study participants; survey page security used Verisign during transmission form the established account to the participants and back to the server (Haag & Cummings, 2008). SSL enabled the download of collected data over a secure channel (Haag & Cummings, 2008). The level of encryption was Verisign certificate version 3, 128-bit encryption (SurveyMonkey, 2010). All data stored on The SurveyMonkey service was password protected and the sole property of the researcher. Microsoft Excel for office 2007 enabled study data protection. Security encryption was required on all survey documents stored in Excel 2007. The Security encryption for Excel 2007 passwords included AES (Advanced Encryption Standard). AES was 128 bits strong encryption coding (Raval & Fichadia, 2007). AES 128 encryption was required on any 2002 or 2003 documents used in the study. Passwords used in the study were complex passwords using a combination of case sensitive letters, numbers, and symbols. Document passwords used in the study were 10 characters in length.

Instrumentation

In the study, the quantitative instruments used included the Leadership Practices Inventory survey (LPI) to measure perceived leadership ability and the Utrecht Work Engagement Scale (UWES) to measure workplace engagement. The LPI instrument supports the five practices of exemplary leadership framework. LPI framework foundations include

triangulation of qualitative and quantitative research methods and studies (LPI, 2002). The study includes the five LPI leadership practices including modeling the way, inspiring a shared vision, challenging the process, enabling others to act, and encouraging the heart (LPI, 2002). More than 350,000 managers and leaders have used the LPI instrument across a variety of organizations, disciplines, and demographic backgrounds (LPI, 2002). A review of the literature supports the LPI study tool has sound psychometric properties, has been extensively tested for validity, and based on solid research.

The UWES engagement instrument deployment started in 1999 (Schaufeli & Bakker, 2003). A review of the literature found that the UWES is the most frequently used instrument to measure engagement, is published in 24 languages and has been validated in several countries including China, Finland, Greece, Japan, South Africa, Spain, and the Netherlands (Bakker, Schaufeli, Leiter, & Taris, 2008). The UWES includes three subscales of engagement: vigor, dedication, and absorption. All of the UWES validation tests used confirmatory factor analysis and showed that the fit of the hypothesized three-factor structure to the data was superior to that used by alternative factor models (Bakker et al., 2008).

Vigor in the UWES engagement tool refers to high levels of energy, resilience, the willingness to invest effort, not being easily fatigued, and persistence in the face of difficulties (Schaufeli & Bakker, 2003). Dedication in the UWES engagement tool refers to deriving a sense of significance from a person's work, feeling enthusiastic, having pride about a person's job, feeling inspired, and challenged by a person's work (Schaufeli & Bakker, 2003). Absorption in the UWES engagement tool refers to being totally and happily immersed in a person's work, and having difficulties becoming detaching from that work so much so that time passes quickly and a

person forgets everything else that surrounds him or her (Schaufeli & Bakker, 2003). The UWES measures and evaluates levels of engagement in many occupational groups including the study's focus on HVACR service technician blue-collar workers.

Study design could help develop researcher's understanding of the cause-and-effect relationship between perceived leadership ability and engagement. Knowledge gained in the study could be helpful to organizations in developing employee hiring and leadership practices that increased organizational efficiency and productivity. The purpose of a predictive research design is to identify variables that will positively predict an outcome or criterion (Creswell, 2005). Understanding the explanatory predictive nature of the study's design could help organizations and future researchers identify variables that may positively predict business, organizational, and leadership efficiency and productivity outcomes.

Validity and Reliability

Validity is the ability to infer the scores from a sample representative of the population (Marczyk et al., 2005). In a study, four types of validity affect study results: internal validity, external validity, construct validity, and statistical validity (Marczyk et al., 2005). Generally the validity of a study is dependent on the level to which the study's tools accurately and reliably measure what they are designed to measure (Marczyk et al., 2005). The validity of study instruments, processes, systems, and conclusions are often time sensitive. A review of the literature indicates the time sensitive nature of validity links to advancements in technology, evolution of theory, and local or global events. Technology has over the last few decades interwoven itself into the delicate fabric of human existence to a point to which many activities in which a person finds oneself are influenced dramatically by the technology of the moment.

One problem with modern technology is technology is changing at an alarming rate. In 1965, Gordon Moore, cofounder of Intel developed Moore's law that states, "The number of transistors that can be placed on an integrated circuits will double ever 12 to 18 months" (as cited in McConnel, 2008, p. 9). Moore's law refers to the speed that technology change affects the world in which a person works, and plays along with what most people know to be true. Technology enhances the accuracy and reliability of research instruments and challenges accepted paradigms. Researchers need to adapt and change to meet these changes to maintain study validity. The study includes well-tested and proven instruments to reduce the impact of changes in technology short term.

History represents one of the greatest challenges to research validity. Today many events trend to be global, which can affect all or most of a study's participants (Marczyk et al., 2005) .These events, can be the result of biology or natural, economic, political, social changes, and other activities. The longer the study's period, the greater potential for study error and reduced study validity (Marczyk et al., 2005).To protect the validity of a study, researchers should take into consideration the effects of time on the study and the study's participants. In longitudinal studies, understanding the effects of time is critical to study accuracy. The study has a span of only a few months and therefore the impact of time is limited. Future studies could evaluate the impact of time on the study's result.

Reliability reflects how consistent and stable an instrument is over time (Marczyk et al., 2005). Reliability is not truth or accuracy (Marczyk et al., 2005). Accuracy refers to the correctness of a measurement. Reliability is a measure of a study's result consistency. In research, data can have a high level of reliability yet not yield truth or accuracy. If a person gets

up every morning and steps on to a scale and the scale constantly reads 150 pounds then the reading is reliable. If the scale is off by 50 pounds then the readings are inaccurate. In research, both reliability and accuracy are critical in establishing the validity of a study (Marczyk et al., 2005). Study reliability relates directly to the reliability of the study's instrumentation. Use of the LPI instrument's five leadership practices provides a consistently high level of reliability (Posner, 2008). The UWES is one of the most widely used and tested instruments for measuring engagement (Bakker et al., 2008).

Mathematical calculations that support the reliability of an instrument are one of the most common sources of support of an instrument's reliability. An instrument's support in the academic and business community along with the reputations of instruments' authors are also very important. The LPI is the brainchild of Jim Jouzes and Barry Posner, who authored the award-winning book that has sold more than 1.4 million copies in 16 languages (Hesselberi & Goldsmith, 2006). Jouzes and Posner have authored more than 12 books on leadership and together developed the LPI instrument (Hesselberi & Goldsmith, 2006). A review of the literature discovered that the LPI instrument was the instrument of choice in more than 100 doctoral dissertations and academic research projects around the world (Hesselberi & Goldsmith, 2006). Historically the LPI has been the instrument of choice in many successful doctoral dissertations at University of Phoenix including one by Michael Finn in 2008 on leadership style and employee satisfaction. The LPI instrument is one of the most widely used leadership measurement instruments in the world (Hesselberi & Goldsmith, 2006). As important as the frequency of instrument usages is to the reliability of an instrument, a person cannot ignore the statistical support for an instrument.

One of the most commonly used instruments to assess engagement in research is the UWES instrument (Bakker et al., 2008). The UWES instrument is the primary research tool in studies on engagement throughout the world (Bakker et al., 2008). UWES engagement studies conducted in Finland, China, Greece, Japan, Spain, and other countries around the world have found that the UWES instrument was superior in reliability and consistency of the data than comparable alternative tools (Bakker et al., 2008). The goal of a study is to provide reliable data (Creswell, 2005). Reliability of a study's data is dependent on many factors. One such factor is the reliability and accuracy of an instrument's survey questions (Creswell, 2005). The use of well-tested and widely used study instruments like the LPI and the UWES reduces instrument related study errors. Administration of a study can affect a study's reliability and accuracy (Creswell, 2005). Study administration risk prevention includes following proven study methods, procedures, and not deviating from the standards set by the study's instruments developers. The LPI and UWES study instruments used in the study do not deviate from the instruments developer's design in question or multiple response selection format, structure, or wording.

Internal Validity

Internal validity in a study represents the level to which the research design eliminates or makes implausible significant alternative hypotheses (Marczyk et al., 2005). Significant alternative hypotheses are those that challenge the validity of a researcher's original hypothesis (Marczyk et al., 2005). Internal validity risks of the study are dependent on the LPI and the UWES survey instruments. The LPI is a leading 360-degree instrument used to assess leadership competencies (Hesselbein & Goldsmith, 2006). Internal validity of the LPI instrument is above .80 and expectable levels are above .60 (LPI, 2002). The LPI instrument developers aligned leadership practices with leadership behaviors in the development of the instrument. Factor

analysis validates the validity of the instrument's survey questions (LPI, 2002). The LPI instrument "is one of the most widely used leadership assessment instruments in the world" (Hesselbein & Goldsmith, 2006, p. 207). More than 300 research papers have used the LPI as the study's core research tool (Hesselbein & Goldsmith, 2006).

UWES instrumentation evaluates the level of engagement of an employee. From the time the UWES was introduced in 1999 the instrument has been used in many relationships studies to identify the causes and consequences of engagement (Schaufeli & Bakker, 2003).The UWES workplace engagement instrument focuses on three engagement factors: vigor, dedication, and absorption (Schaufeli & Bakker, 2003). A review of the literature discovered that the UWES instrument proved effective, reliable, and accurate in a 2004 correlation study that examined the workplace wellness of 38 engineers, 86 technicians, and 91 electricians at an electricity supply company (Bakker et al.,2008). The study's population was very similar in demographics to the HVACR technician population in the study. In the supply company study, a factor analysis conducted on the UWES instrument using SPSS confirmed the construct validity of the instrument (Rothmann et al., 2005). One of the most widely used instruments in the world to validate the measurement of engagement is the UWES (Bakker et al., 2008). The UWES instrument success rate in studies around the world including China, Finland, Greece, Africa, Spain, and the Netherlands demonstrates the instrument's validity (Bakker et al., 2008). Studies have found that the three-factor structure of the UWES is superior to alternative factor models (Bakker et al., 2008). The UWES is a well-validated measure of workplace engagement with a high-level of internal validity (Bakker et al., 2008).

Both the LPI and the UWES instruments provide the study with well-validated instruments to add to the validity of the study. Both survey instruments have demonstrated their

reliability and validity in many research studies around the world. The LPI and UWES are proven assessment instruments in studies that investigate the relationship between two or more variables. The use of the LPI and UWES instruments in the study increases the validity of study findings.

External Validity

External validity in a study refers to the generalizability of study's results (Marczyk et al., 2005). The study's population and environment generally limit the study's results. External validity represents the degree to which the study's results find application to other populations and environments (Marczyk et al., 2005). Study data analysis is limited to HVACR service technicians in the United States. The focus on one group in the study could make the discoveries of the study invalid when applied to other industries or populations outside those targeted by the study.

Construct Validity

Construct validity represents the degree to which the theory supported by research discoveries best explains the study's results (Marczyk et al., 2005). The construct validity of a study finds validation through the analysis of the study instruments' scores (Creswell, 2005). Study tool analysis reveals the level of significance, meaning, usefulness, and purpose in understanding the study's population (Creswell, 2005). Construct validity of a study is determined though statistical processes and procedures (Creswell, 2005). Use of statistical processes and procedures helps determine the strength of the study questions' relationship with the expected meaning (Creswell, 2005). The LPI instrument questions used in the study have the purpose of revealing the perceived leadership ability of a study participant. LPI instrument developers matched leadership practices with behaviors in the development of the instrument

questions to reveal leadership potential. The LPI instrument's construct validity establishes validated through the successful use of the LPI instrument to reveal leadership potential including a 2005 University of Florida study. In the Florida study, each of the LPI survey questions had an internal validity above .80 and a test reliability of greater than .90 (Rudd & Sullivan, 2005).

UWES survey questions reveal the level of engagement of study participants. The UWES instrument has found success in research projects around the world to assess workplace engagement. In a work-related well-being study conducted in 2005 of blue-collar employees, the UWES was effective in evaluating workplace engagement in employees (Rothmann et al., 2005). Study discoveries are significant to the study because the study participants included blue-collar workers with similar working conditions to those in the study. The well-being study like the study was a correlation study that shared the study's dependent variable, workplace engagement. Developers of the well-being study assessed the validity of the UWES instrument using confirmatory factor analysis (Rothmann et al., 2005).

Statistical Validity

Statistical validity in a quantitative study is the degree to which the study's results or conclusions are reasonable (Marczyk et al., 2005). In a quantitative study, statistical procedures test the relationship between the independent and dependent variables to determine if a relationship is simply changed or if a true relationship exists (Marczyk et al., 2005). A statistical evaluation of a study's hypothesis builds the foundation on which the strength of a study's statistical validity rests (Marczyk et al., 2005). The hypothesis of a study drives the method design, and statistical analysis of a study, which in turn drives the statistical validity of the study's results (Marczyk et al., 2005). Significant hypothesis testing in the study tests the

relationship between the independent and dependent variables and builds the case for the statistical validity of the study. The threats to statistical validity include low statistical power, variation in study process or procedures, unreliable instruments, and study errors (Marczyk et al., 2005). Low statistical power is the most common threat to the statistical validity of a study.

Survey Instrument Development

The study survey instrument integrated into the SurveyMonkey online survey tool helps maintain the validity and reliability of the study's results. SurveyMonkey tools are critical to the design and administration of the study survey. The SurveyMonkey tool is an American-based online survey provider that has been providing high quality surveys since 1999 (McAndrews, 2009). One of the most powerful, economical, and popular survey tools available is SurveyMonkey (McAndrews, 2009). Existing SurveyMonkey tools provide users an easy to use powerful survey development, implementation, and analysis tools (McAndrews, 2009). Study quantitative survey instrument includes four sections. Section one of the survey was the participant consent form. Consent form design follows University of Phoenix guidelines. The consent section required participants to acknowledge they understand the conditions of the study. Part two of the online survey tool was demographic. The demographic section of the study follows SurveyMonkey template and recommendations from the Refrigeration Service Engineers Society (RSES). Section three of the survey was the LPI leadership survey instrument. The LPI section of the survey follows LPI tool use guidelines. Section four of the survey was the UWES work engagement survey instrument. In section four of the survey the UWES instrument accomplished study needs and follows UWES guidelines. The survey questions and selectable responses in the LPI and the UWES sections of the study's survey followed tool usage requirements presented by the LPI and UWES tool developers.

Data Analysis

All statistical analysis required the use of PASW (formerly SPSS) for Windows (PASW 19.0, SPSS Inc., Chicago, Illinois). Study analysis was two-sided with a 5% alpha level. Demographic characteristics study results went through analysis using the mean, standard deviation, and range for continuous scaled variables and frequency and percent for categorical scaled variables. Cronbach's alpha was used to measure the internal consistency reliability of the modeling the way (MTW), inspiring a shared vision (ISV), challenging the process (CTP), enabling others to act (EOA), encouraging the heart (ETH) and workplace engagement (WE) scale scores.

Hypothesis 1 analysis required using Pearson's correlation coefficient. If the Pearson correlation coefficient is statistically significantly different from zero, then the null hypothesis rejected with no correlation between workplace engagement and the extent to which blue-collar workers possess a modeling the way leadership style. Hypothesis results are included in study results.

Hypothesis 2 analysis required using Pearson's correlation coefficient. If the Pearson correlation coefficient is statistically significantly different from zero, then the null hypothesis will be rejected and it will be concluded that there is a correlation between workplace engagement and the extent to which blue-collar workers possess an inspiring a shared vision leadership style. Hypothesis results are included in study results.

Hypothesis 3 analysis required using Pearson's correlation coefficient. If the Pearson correlation coefficient is statistically significantly different from zero, then the null hypothesis will be rejected and it will be concluded that there is a correlation between workplace

engagement and the extent to which blue-collar workers possess a challenging the process leadership style. Hypothesis results are included in study results.

Hypothesis 4 analysis required using Pearson's correlation coefficient. If the Pearson correlation coefficient is statistically significantly different from zero, then the null hypothesis will be rejected and it will be concluded that there is a correlation between workplace engagement and the extent to which blue-collar workers possess an enabling others to act leadership style. Hypothesis results are included in study results.

Hypothesis 5 analysis required using Pearson's correlation coefficient. If the Pearson correlation coefficient is statistically significantly different from zero, then the null hypothesis will be rejected and it will be concluded that there is a correlation between workplace engagement and the extent to which blue-collar workers possess an encouraging the heart leadership style. Hypothesis results are included in study results.

Hypothesis 6 analysis required using multiple linear regression. In the regression model the dependent variable was the workplace engagement score (WE). The independent variables was modeling the way (MTW), inspiring a shared vision (ISV), challenging the process (CTP), enabling others to act (EOA), and encouraging the heart (ETH) leadership style scores. All five independent variable required entry into the model simultaneously. If the regression coefficients for all five independent variables are statistically significant, then the null hypothesis requires rejection and results concluded that MTW, ISV, CTP, EOA, and ETH add independent information in predicting the WE score. Otherwise, MTW, ISV, CTP, EOA, and ETH do not add independent information in predicting the WE score. The equation of the model documentation and statistically significant regression coefficients interpreted take place in the study analysis. In the final model, R-square presentation takes place in the study summation.

Hypothesis 6 analysis required using multiple linear regression analysis. Power analysis for multiple linear regressions reflects the amount of change in R-squared attributed to the variables of interest. According to Cohen (1988), small, medium, and large effect sizes for hypothesis tests about R-squared are as follows: R-squared=0.0196, R-squared= 0.13 and R-squared=0.26 respectively. A sample size of 213 achieves 80% power to detect an R-squared of 0.06 (which was a small to medium effect size) attributed to five independent variables (MTW, ISV, CTP, EOA, and ETH) using an F-test with a significance level (alpha) of 0.05. Thus, a sample size of 213 was justifiable for detecting small to medium effect sizes for significant hypotheses one-six.

Sample Size Justification

To help ensure accuracy power calculations required using the PASS 2008 computer software: Hintze, J. (2008). PASS 2008. NCSS, LLC. Computer software Kaysville, Utah. www.ncss.com. Hypotheses one through six testing required using the Pearson's correlation coefficient. According to Cohen (1988), small, medium, and large effect sizes for hypothesis tests about the Pearson correlation coefficient (r) are as follows: r=0.1, r=0.3 and r=0.5 respectively. A sample size of 213 produces 80% power to detect an effect size of 0.20, which was a small to medium effect size. For example, an effect size of 0.20 corresponds to a comparison of the null hypothesis that r=0.0 versus the alternative hypothesis that |r|>=0.20. For instance, if the true population correlation between WE and MTW was 0.20 or greater, the study has an 80% chance of detecting (i.e. achieving statistical significance) the correlation at the 0.05 level of statistical significance.

Summary

Quantitative research generally examines a large number of cases in much less detail than qualitative research (Vogt, 2007). The aim of most quantitative research is for external validity (Vogt, 2007). Most quantitative research studies are correlational or associational (Vogt, 2007). In a quantitative correlational study the researchers seeks to explain or predict the relationship between an independent variable and a dependent variable in a population (Vogt, 2007). A quantitative method study design was appropriate for the study based on the study's goal to evaluate the relationship between perceived leadership ability and workplace engagement. Both the LPI and UWES survey instruments are generally accepted as well proven research tools. SurveyMonkey is a well-established and effective technology tool to deliver research surveys. The use of the LPI and UWES instruments and the SurveyMonkey tools provides for the delivery of a high quality survey tool that can be generalizable and replicable in future research. Developing a clear understanding into the relationship between leadership ability and engagement could provide valuable information to organizations in developing an efficient and productive work environment. Understanding the relationship between leadership and engagement could provide information to enhance employee training and development programs. Chapter 4 documents the results of the study.

Chapter 4: Results

The purpose of this quantitative correlational research study was to explore the existence of a relationship between blue-collar perceived leadership ability and workplace engagement. The participants for the study included 213 HVACR technicians in California. Participation in the study was voluntary and anonymous to help reduce study biases. Notification of the study's existence and purpose emanated through Union 250, Trane, and RSES general announcement to these organizations members. There were no personal, professional, or financial rewards associated with participant involvement in this study. Each of the study participants completed an online survey used to collect data on participants perceived leadership ability and workplace engagement. The study survey included four sections. The first section of the survey informed consent, presented the purpose, benefits, risks, and requirements for study participants. Section two of the survey included participant demographic information. The demographic information included only job specific information and no personal information that could identify participants directly.

The third section of the study included the LPI leadership Practices Inventory survey used to evaluate study participant preceded leadership ability. The final section of the survey included the UWES survey designed to identify study participants' level of workplace engagement. The LPI survey instrument measured the study's independent variable leadership ability. Use of the UWES survey instrument enabled the measurement of the study's dependent variable workplace engagement.

Chapter 4 includes a review of the sample data, the analysis of that data, a review of the findings, and the discovery of research themes. In Chapter 4, the data in each of the charts, graphs, and tables originated from the study survey. The research methodology used in the

collection and analysis of the data can be found in Chapter 3. Data included in the analysis in Chapter 4 includes the demographics of the sample population, the LPI leadership data, and the UWES engagement data included in the study survey. Chapter 4 includes a descriptive analysis of the survey instruments' results. The study hypothesis and research questions analysis includes correlation and regression analysis.

Analysis Tools

The tool used for statistical analysis was the SPSS for Windows (SPSS 19.0, SPSS Inc., Chicago, IL). All data analysis included two-sided with a 5% alpha level. Demographic characteristics of the study sample required analysis using the mean, standard deviation, and range for continuous scaled variables and frequency and percent for categorical scaled variables. Cronbach's alpha was used to measure the internal consistency reliability of the modeling the way (MTW), inspiring a shared vision (ISV), challenging the process (CTP), enabling others to act (EOA), encouraging the heart (ETH) and workplace engagement (WE) scale scores.

Population

The study population included 213 HVACR service technicians from the United States. According to Cohen (1988), small, medium, and large effect sizes for hypothesis tests about the Pearson correlation coefficient (r) are as follows: r=0.1, r=0.3 and r=0.5 respectively. A sample size of 213 produces 80% power to detect an effect size of 0.19, which was a small to medium effect size. For example, an effect size of 0.19 corresponds to a comparison of the null hypothesis that r=0.0 versus the alternative hypothesis that |r|>=0.19. For instance, if the true population correlation between WE and MTW was 0.19 or greater, this study has an 80% chance of detecting (i.e. achieving statistical significance) this correlation at the 0.05 level of statistical

significance. Thus, a sample size of 213 was justifiable for detecting small to medium effect sizes for the study. The power calculation required the use of PASS 2008 software.

Sampling Frame

A target population or sampling frame was a group of people with some common defining characteristic that researchers are interested in (Creswell, 2005). To reduce coverage error a study must have an adequate sampling frame of the desired people. The sample size of this study was equal to the total qualified respondents to the study's survey. The HVACR service technician population participating in this study was 213.

LPI Survey

The Leadership Practice inventory (LPI) used in this study is one of the most widely used instruments for measuring leadership characteristics (Hesselbein & Goldsmith, 2006). The LPI instrument is a 30-question survey used to collect data on study participant perceived leadership abilities. Five leadership characteristics used for evaluation in the LPI include (a) modeling the way, (b) inspiring a shared vision, (c) challenging the process, (d) enabling others to act, and (e) encouraging the heart. Each of the questions in the LPI instrument is specific to one of the five leadership characteristics as illustrated in table 1.

Table 1

LPI Leadership Characteristics to Questions Relationship

Leadership Characteristic	Related LPI instrument question
Modeling the Way	1,6,11,16,21, and 26
Inspiring a Shared Vision	2,5,7, 12,17, 22, and 27
Challenging the Process	3,8,13,18,23, and 28
Enabling Others to Act	4,9,14,19,24, and 29
Encouraging the Heart	5,10,15,20,25, and 30

Modeling the Way

Modeling the Way score (MTW) required measurement on a continuous scale with a range of 6 to 60. The score comes from calculating the sum of questions 1, 6, 11, 16, 21, and 26 from the LPI questionnaire. Smaller scores indicate the blue-collar worker possesses less of the modeling the way leadership style while larger scores indicate the worker possesses more of the modeling the way leadership style.

Inspiring a Shared Vision

Inspiring a Shared Vision score (ISV) required measurement on a continuous scale with a range of 6 to 60. The score comes from calculating the sum of questions 2, 5, 7, 12, 17, 22, and 27 from the LPI questionnaire. Smaller scores indicate the blue-collar worker possesses less of the inspiring a shared vision" leadership style

while larger scores indicate the worker possesses more of the inspiring a shared vision leadership style.

Challenging the Process

Challenging the Process score (CTP) required measurement on a continuous scale with a range of 6 to 60. The score comes from calculating the sum of questions 3, 8, 13, 18, 23, and 28 from the LPI questionnaire. Smaller scores indicate the blue-collar worker possesses less of the challenging the process leadership style while larger scores indicate the worker possesses more of the challenging the process leadership style.

Enabling Others to Act

Enabling Others to Act score (EOA) required measurement on a continuous scale with a range of 6 to 60. The score comes from calculating the sum of questions 4, 9, 14, 19, 24, and 29 from the LPI questionnaire. Smaller scores indicate the blue-collar worker possesses less of the enabling others to act leadership style while larger scores indicate the worker possesses more of the enabling others to act leadership style.

Encouraging the Heart

Encouraging the Heart score (ETH) required measurement on a continuous scale with a range of 6 to 60. The score comes from calculating the sum of questions 5, 10, 15, 20, 25, and 30 from the LPI questionnaire. Smaller scores indicate the blue-collar worker possesses less of the encouraging the heart leadership style while larger

scores indicate the worker possesses more of the encouraging the heart leadership style.

<div align="center">**UWES Survey**</div>

The Utrecht Work Engagement Scale (UWES) is a survey instrument designed to identify levels of workplace engagement in study participants. The UWES evaluates three aspects of work engagement: vigor, dedication, and absorption. Each of the 17 questions in the UWES survey instrument is specific to one of the three aspects of work engagement. These three aspects of work engagement are the key components in the evaluation of the level or depth of engagement each study participant possesses. The UWES is the most widely used and validated self-reporting instrument to measure engagement used in research around the world (Bakker et al., 2008).

Vigor

Vigor in the UWES engagement tool refers to high levels of energy, resilience, the willingness to invest effort, not easily fatigued, and persistence in the face of difficulties (Schaufeli & Bakker, 2003).

Dedication

Dedication in the UWES engagement tool refers to deriving a sense of significance from a person's work, feeling enthusiastic, having pride about a person's job, feeling inspired, and challenged by a person's work (Schaufeli & Bakker, 2003).

Absorption

Absorption in the UWES engagement tool refers to being totally and happily immersed in a person's work, and having difficulties detaching oneself from a person's work so much so that

time passes quickly and a person forgets everything else that surrounds him or her (Schaufeli & Bakker, 2003).

Research Questions

The research questions served to guide the investigation into the existence of a relationship between the independent variables and dependent variable and the effects of the independent variables on the dependent variable. The first five questions specifically addressed the relationship between the study's independent and dependent variables. Research discoveries linking these first five questions could provide researchers and organizations valuable insight into employee characteristics and behaviors that support sustainability and competitiveness in the global marketplace. Question six was required to evaluate if a predictive model for employee engagement based on perceived leadership ability was achievable between HVACR technician blue-collar perceived leadership ability and workplace engagement. The study's research questions add to the knowledge of both leadership and engagement and could prove beneficial to research into the relationship between leadership characteristics and engagement.

Hypotheses

In the study, the critical hypothesis helps in the establishment of the study's direction (Vogt, 2007). The significant null hypothesis represents the default or general position of a study (Vogt, 2007). In the study the alternative significant hypotheses was the rival significant hypotheses to the null significant hypotheses (Vogt, 2007). The study tested the six statistically significant hypotheses using the study's instruments. For the study H0: represented the significant null hypothesis and Hal: represented the significant alternative hypothesis.

Data Analysis

In total 244 people responded to the invitation to participate in the study. Of the 244 respondents, one declined informed consent and thereby required removal from the analysis. Of the remaining 243 respondents, one asked to have their responses omitted from the study, and thereby removing this data from the analysis. Of the remaining 242 respondents, 29 skipped one or more of the survey questions relating to the LPI or the UWES, rendering their data unusable. Thus, the final sample size for the study was N = 213.

Descriptive Statistics for Demographic Variables

In total 188 (88.3%) study participants were male, 16 (7.5%) were female, and 9 (4.2%) failed to provide their gender. Of the 213 study participants, 10 (4.7%) reported their highest level of education as "other"; 6 (2.8%) "Less than high school"; 60 (28.2%) "high school/GED graduate"; 56 (26.3%) vocational school graduate; 61 (28.6%) "2-year college degree"; 19 (8.9%) "4-year degree," and one (.5%) failed to report the highest level of education. A total of 21 (9.9%) study participants reported having 2 years or less of experience in the heating ventilation, air conditioning, or refrigeration industry; 26 (12.2%) 3-5 years; 36 (16.9%) 6-10 years; 19 (8.9%) 11-15 years; 32 (15.0%) 16-20 years; 51 (23.9%) 21-30 years; 27 (12.7%) greater than 30 years, and 1 (.5%) failed to report their years of experience. The majority of respondents, 120 (56.3%), reported their refrigeration industry skill level as "Journeyman/Technician." In total 40 (18.8%) respondents reported their skill level as "supervisor" and 25 (11.7%) reported their skill level as "apprentice." The remaining 28 (13%) study participants reported a skill level of student, helper, manager, or other. The geographic location of the study participants in included 151 (70.9%) in southern California, 26 (12.2%) in northern California, 8 (3.8%) Midwest United States, 11 (5.2%) eastern United States, 3 (1.4%)

western United States, 11 (5.2%) other, and three (1.4%) failed to report their geographic

location. See Appendix K for detailed frequency tables for all of the survey questions.

Descriptive Statistics for the Independent and Dependent Variables

Table 2 shows descriptive statistics for the independent and dependent variables.

Considering the smallest possible score for the leadership scores was 6 and the maximum

possible score was 60, all five leadership styles were rated relatively high on average, with

averages ranging from 47.6 (inspiring a shared vision) to 52.3 (enabling others to act). The

smallest possible work engagement score was 0.0 and the maximum possible score was 6.0; the

work engagement score was relatively high on average, with an average of 4.99.

Table 2

Descriptive Statistics for the Leadership Style and Work Engagement Scores

	N					
	Valid	Missing	Mean	Std. Deviation	Minimum	Maximum
Modeling the Way	213	0	50.75	6.26	25.00	60.00
Inspiring a Shared Vision	213	0	47.62	8.60	21.00	60.00
Challenging the Process	213	0	49.05	7.52	22.00	60.00
Enabling Others to Act	213	0	52.29	4.76	36.00	60.00
Encouraging the Heart	213	0	49.51	7.07	23.00	60.00
Work Engagement	213	0	4.99	.60	2.12	6.00

Cronbach's Alpha for the Independent and Dependent Variables

Cronbach's alpha measures the reliability of a scale score (Vogt, 2007). The use of

Crobanh's alpha provides researchers a way of trending a person's answers to questions to check

the reliability of the answers given in a series of related questions (Vogt, 2007). Within a series

of questions that contain underlying constructs, expatiations are that participants would answer

the questions similarly; this expectation is internal consistency reliability (Vogt, 2007).

Cronbach's alpha scale ranges from 0-1.0 and results of .60 to .70 are the minimum range level of reliability (Aron, Aron, & Coups. 2009). The most commonly used tool for measuring the accuracy of study participant responses to questions that share common characteristics is the Cronbach's alpha (Aron et al., 2009).

Cronbach's alpha's was required for the leadership style and work engagement scores. Table 3 shows that all of the scores had an alpha above .7 with the exception of the enabling others to act leadership style score, which had a Cronbach's alpha of .69. The other Cronbach's alphas ranged from .72 to .87. Considering the Cronbach's alpha was not much below .7 for the enabling others act score, the low reliability was not a major limitation of the study.

Table 3

Cronbach's Alpha

Variable	Cronbach's alpha (n = 213)	Number of items
Modeling the Way	0.72	6
Inspiring a Shared Vision	0.86	6
Challenging the Process	0.83	6
Enabling Others to Act	0.69	6
Encouraging the Heart	0.81	6
Work Engagement	0.87	17

Hypotheses and Research Questions Test Results

Hypothesis 1:

H1$_0$: There is no correlation between the WE score and the MTW score.

H1$_a$: There is a correlation between the WE score and the MTW score.

Figure 1 is a scatter plot which graphically depicts the relationship between the work engagement score and the modeling the way score. The figure gives a strong indication of a positive correlation between the two variables.
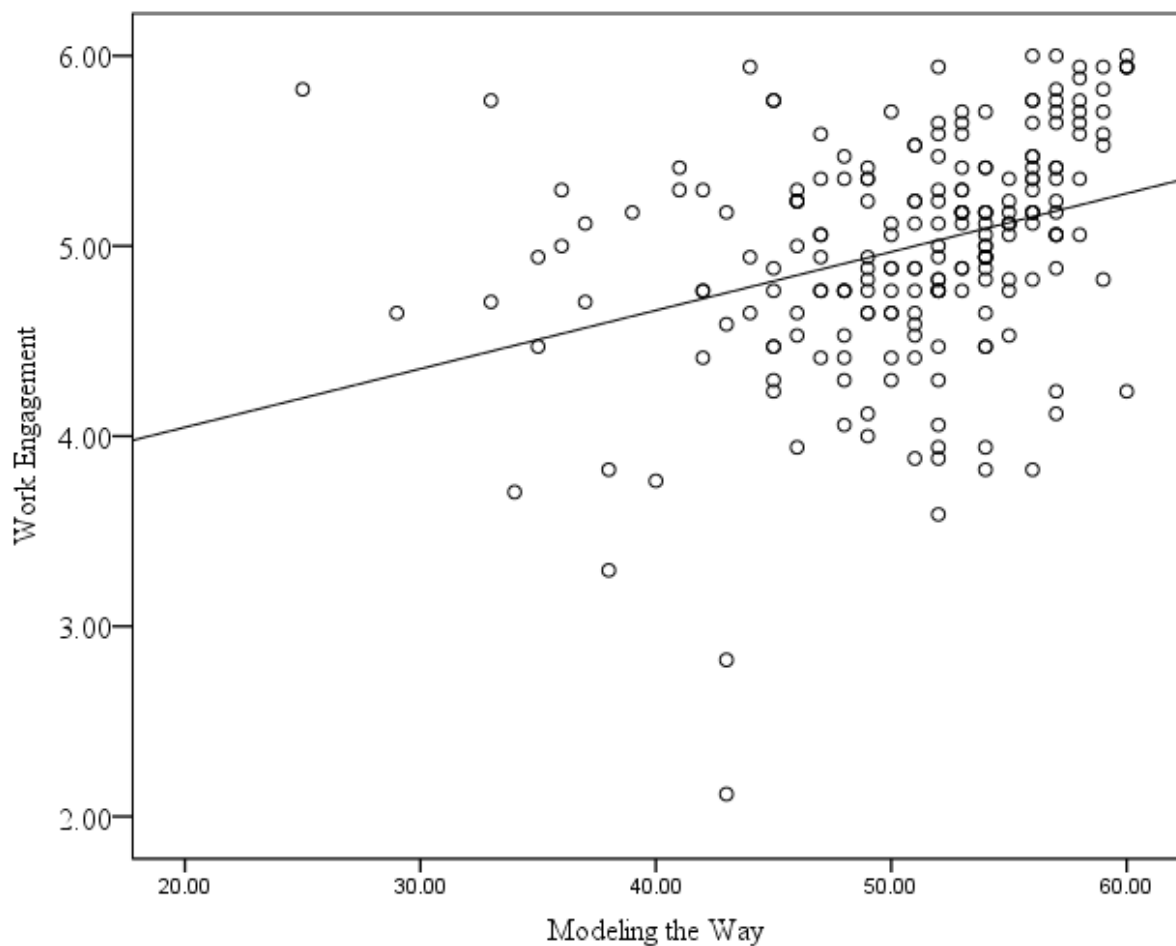
Figure 1: Scatter plot of the work engagement score versus the modeling the way score

Table 4 shows there was a statistically significant, moderately strong positive correlation between the work engagement score and the modeling the way score, r (211) = .32; p < .001. Therefore, the null hypothesis required rejection and results in strong evidence to support that HVACR technician blue-collar workers who perceive themselves as having a high level of modeling the way leadership style tend to be more engaged with their work.

Table 4

Pearson's Correlation Statistic for Work Engagement Versus Modeling the Way Leadership Style

		Modeling the Way
Work Engagement	Pearson Correlation	.32
	p-value	<.001
	N	213

Research question one. What is the relationship between workplace engagement (WE) and the extent to which blue-collar workers possess a modeling the way leadership style (MTW)?

Research question one conclusion. There was a statistically significant, moderately strong positive correlation between engagement (WE) and modeling the way leadership style among blue-collar workers.

Hypothesis 2:

H2$_0$: There is no correlation between the WE score and the ISV score.

H2$_a$: There is a correlation between the WE score and the ISV score.

Figure 2 is a scatter plot, which graphically depicts the relationship between the work engagement score and the inspiring a shared vision score. The figure gives a strong indication of a positive correlation between the two variables.
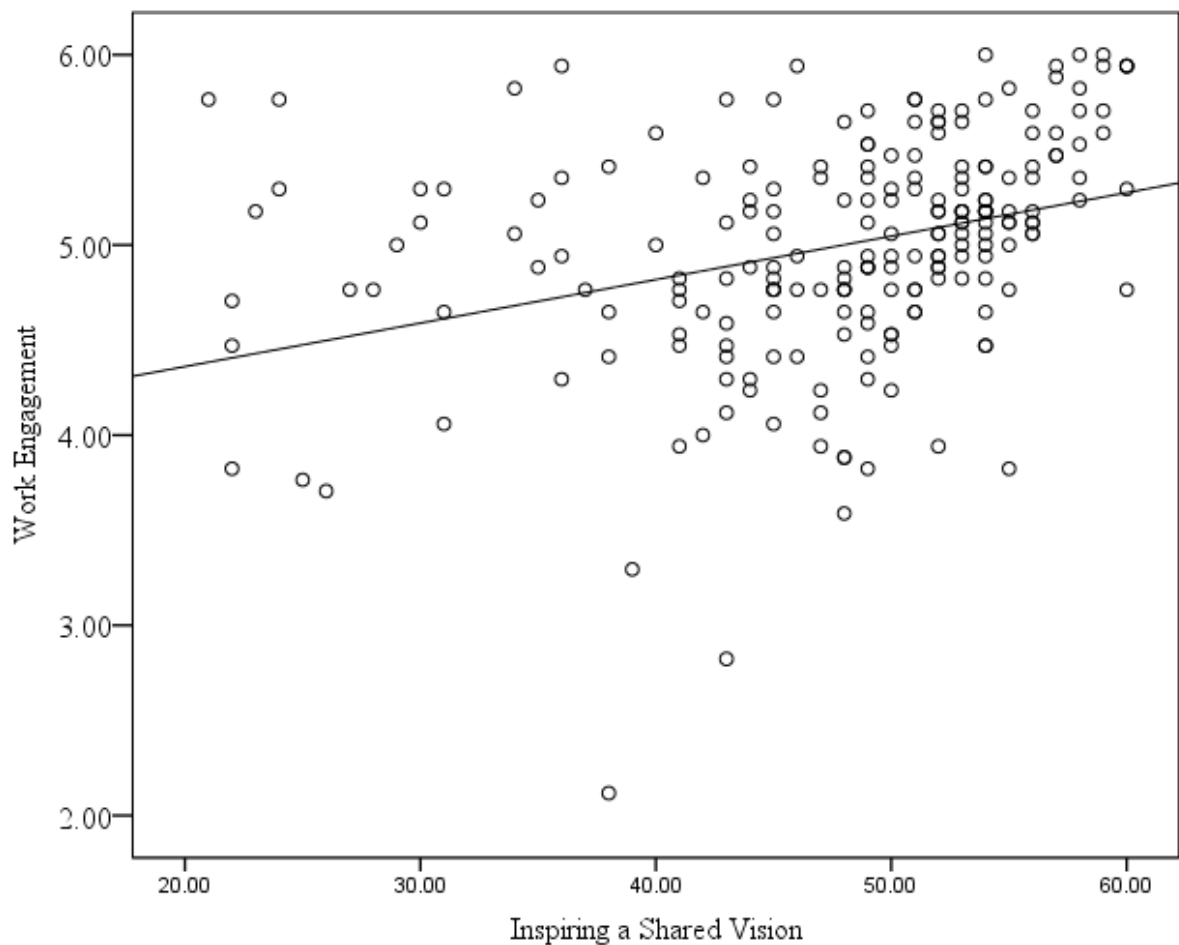
Figure 2: Scatter plot of the work engagement score versus the inspiring a shared vision score.

Table 5 shows there was a statistically significant, moderately strong positive correlation between the work engagement score and the inspiring a shared vision score, $r(211) = .33$; $p < .001$. Therefore, the null hypothesis required rejection resulting in strong evidence to suggest that

HVACR technician blue-collar workers who perceive themselves as having a have a high level of inspiring a shared vision leadership style tend to have higher levels of engagement with their work.

Table 5

Pearson's Correlation Statistic for Work Engagement Versus Inspiring a Shared Vision Leadership Style

		Inspiring a Shared Vision
Work Engagement	Pearson Correlation	.33
	p-value	<.001
	N	213

Research question two. What is the relationship between workplace engagement (WE) and the extent to which blue-collar workers possess an inspiring a shared vision leadership style (ISV)?

Research question two conclusion. There was a statistically significant, moderately strong positive correlation between workplace engagement (WE) and a shared vision leadership style (ISV) among blue-collar workers.

Hypothesis 3:

$H3_0$: There is no correlation between the WE score and the CTP score.

$H3_a$: There is a correlation between the WE score and the CTP score.

Figure 3 is a scatter plot, which graphically depicts the relationship between the work engagement score and the challenging the process score. The figure gives a strong indication of a positive correlation between the two variables.
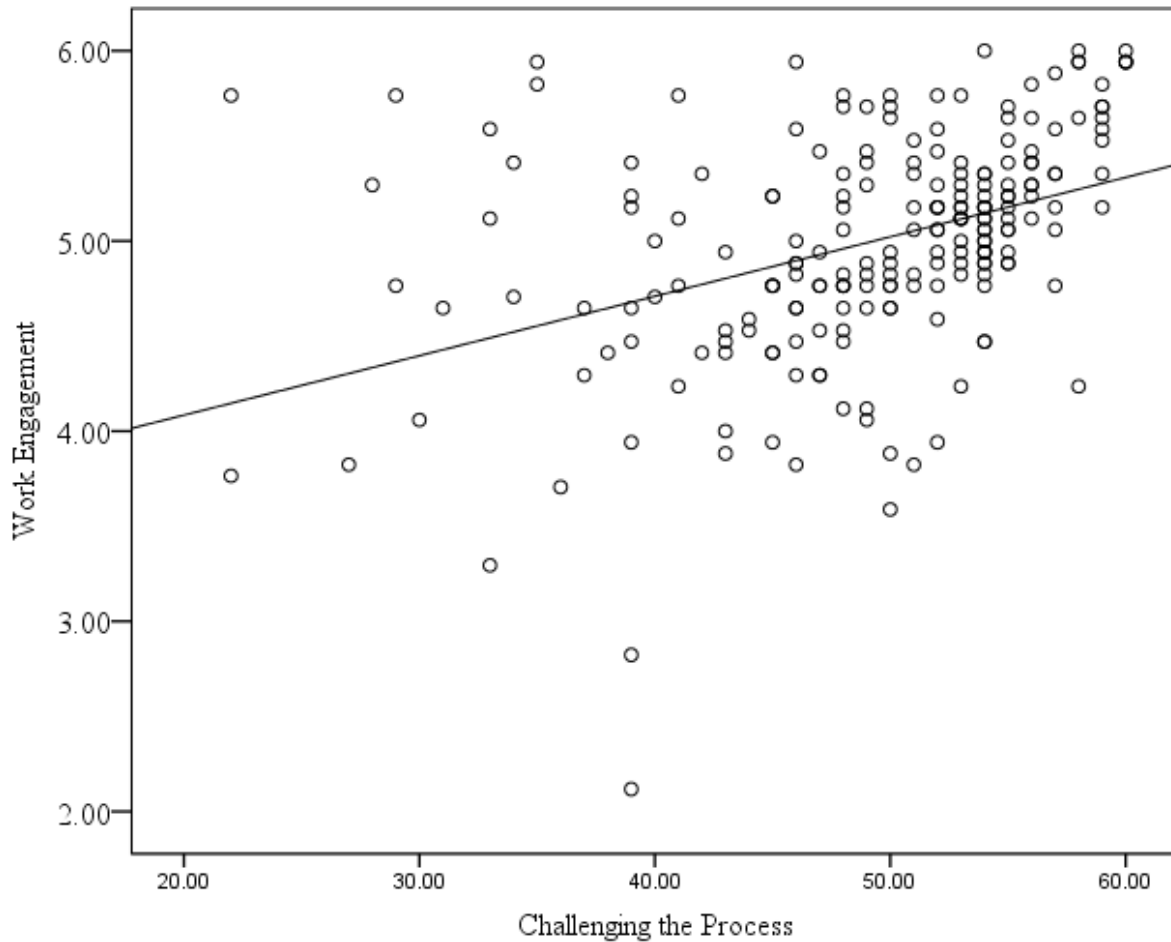
Figure 3: scatter plot of the work engagement score versus the challenging the process score.

Table 6 shows there was a statistically significant, moderately strong positive correlation between the work engagement score and the challenging the process score, r (211) = .39; p < .001. Therefore, the null hypothesis required rejection concluding that there was strong evidence to suggest that HVACR technician blue-collar workers, who perceive themselves as having a have a high level of challenging the process leadership style, tend to have higher levels of engagement with their work.

Table 6

Pearson's Correlation Statistic for Work Engagement Versus Challenging the Process

Leadership Style

		Challenging the Process
Work Engagement	Pearson Correlation	.39
	p-value	<.001
	N	213

Research question three. What is the relationship between workplace engagement (WE) and the extent to which blue-collar workers possess a challenging the process leadership style (CTP)?

Research question three conclusion. There was a statistically significant, moderately strong positive correlation between workplace engagement (WE) and blue-collar workers possessing a challenging the process leadership style (CTP).

Hypothesis 4:

H4$_0$**:** There is no correlation between the WE score and the EOA score.

H4$_a$**:** There is a correlation between the WE score and the EOA score.

Figure 4 is a scatter plot, which graphically depicts the relationship between the work engagement score and the enabling others to act score. The figure gives a strong indication of a positive correlation between the two variables.
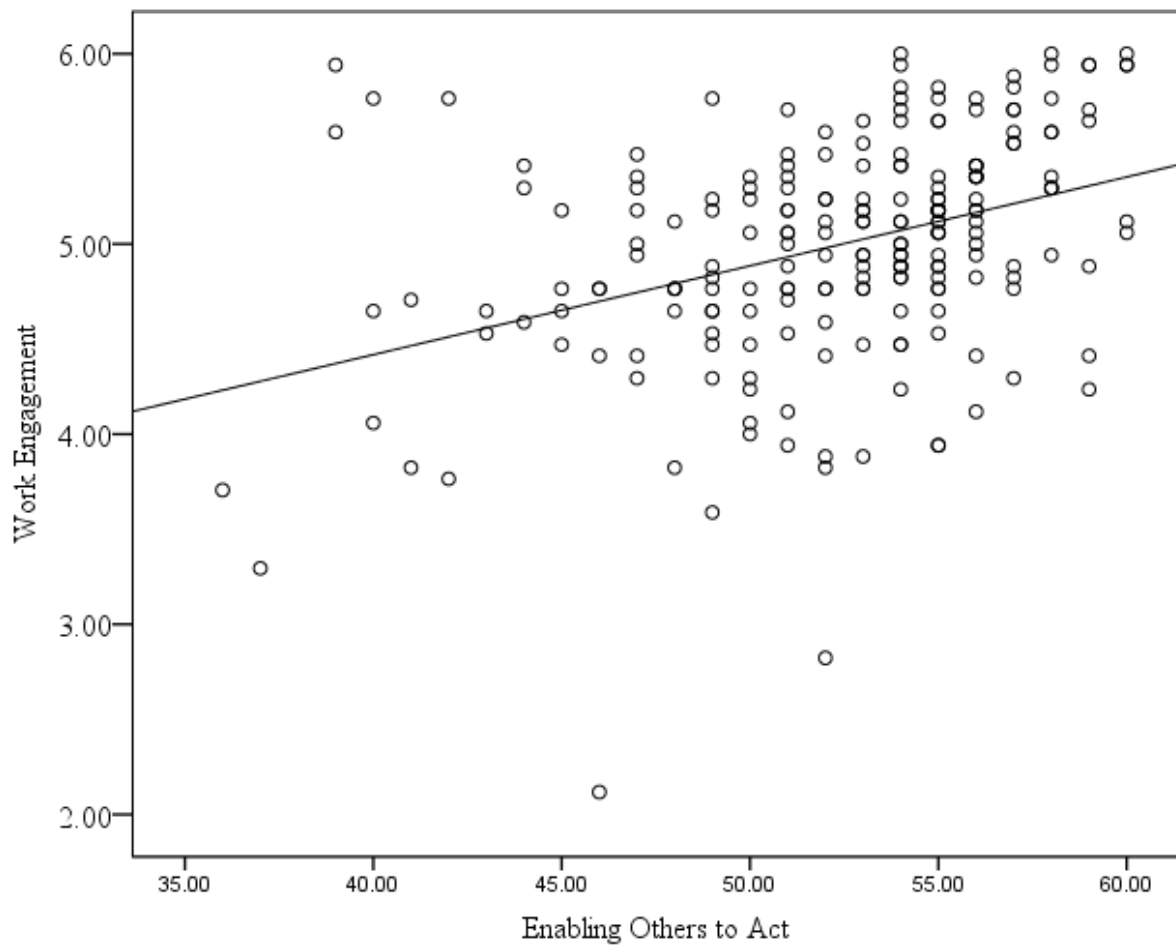
Figure 4: Scatter plot of the work engagement score versus the enabling others to act score.

Table 7 shows there was a statistically significant, moderately strong positive correlation between the work engagement score and the enabling others to act score, r (211) = .37; p < .001. Therefore, the null hypothesis required rejection resulting in the analysis that there exists strong evidence to suggest that HVACR technician blue-collar workers who perceive themselves as having a high level of enabling others to act leadership style tend to have higher levels of engagement with their work.

Table 7

Pearson's Correlation Statistic for Work Engagement Versus Enabling Others to Act Leadership
Style

		Enabling Others to Act
Work Engagement	Pearson Correlation	.37
	p-value	<.001
	N	213

Research question four. What is the relationship between workplace engagement (WE) and the extent to which blue-collar workers possess an enabling others to act leadership style (EOA)?

Research question four conclusion. There was a statistically significant, moderately strong positive correlation between workplace engagement (WE) and the enabling others to act score leadership style (EOA).

Hypothesis 5:

$H5_0$: There is no correlation between the WE score and the ETH score.

$H5_a$: There is a correlation between the WE score and the ETH score.

Figure 5 is a scatter plot, which graphically depicts the relationship between the work engagement score and the encouraging the heart score. The figure gives a strong indication of a positive correlation between the two variables.
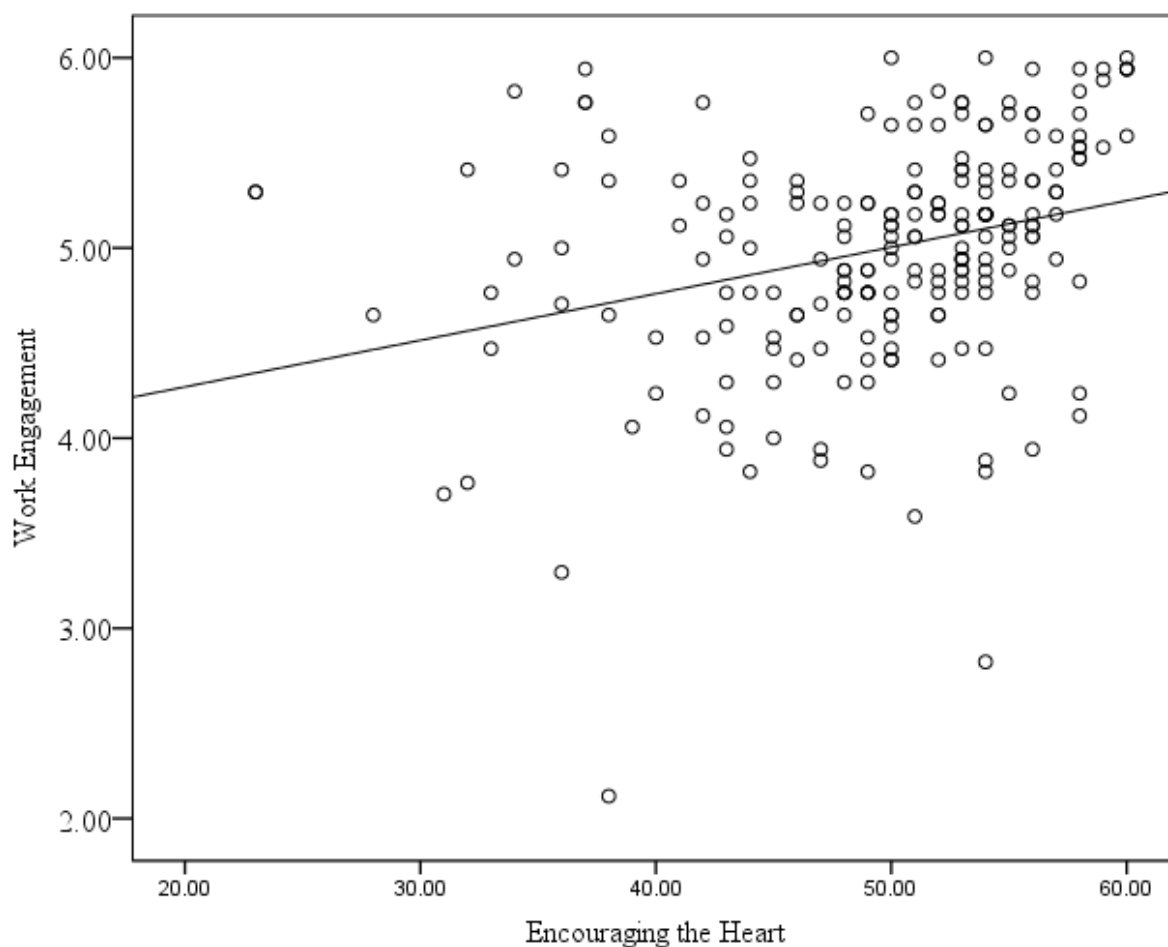
Figure 5: Scatter plot of the work engagement score versus the encouraging the heart score

Table 8 shows there was a statistically significant, moderately strong positive correlation between the work engagement score and the encouraging the heart score, $r(211) = .29$; $p < .001$. Therefore, the null hypothesis required rejection therefore providing strong evidence to suggest that HVACR technician blue-collar workers, who perceive themselves as having a have a high level of encouraging the heart leadership style, tend to have higher levels of engagement with their work.

Table 8

Pearson's Correlation Statistic for Work Engagement Versus Encouraging the Heart Leadership Style

		Encouraging the Heart
Work Engagement	Pearson Correlation	.29
	p-value	<.001
	N	213

Research question five. What is the relationship between workplace engagement (WE) and the extent to which blue-collar workers possess an encouraging the heart leadership style (ETH)?

Research question five conclusion, There was a statistically significant, moderately strong positive correlation between workplace engagement (WE) and the encouraging the heart score (EHS).

Hypothesis 6:

$H6_0$**:** The MTW, ISV, CTP, EOA, and ETH leadership style scores do not add independent information in predicting the WE score.

$H6_a$**:** The MTW, ISV, CTP, EOA and ETH leadership style scores add independent information in predicting the WE score.

A multiple linear regression analysis was required to test this hypothesis. However, Table 9 shows evidence of multicollinearity, as shown by variance inflation factors (VIF) above two for all of the leadership style scores. Multicollinearity adversely affects the results of the analysis. Therefore, instead of entering all five leadership scores into the model simultaneously,

the variables required entry into the model using a stepwise model selection procedure. Only

those independent variables statistically significant at the .05 level of significance required entry

into the model.

Table 9

Inflation Factors for Multiple Linear Regression Model for Hypothesis 6

	Collinearity Statistics
Independent Variables	VIF
Modeling the Way	3.40
Inspiring a Shared Vision	4.00
Challenging the Process	4.04
Enabling Others to Act	2.73
Encouraging the Heart	3.64

Note. Dependent Variable: Work Engagement

The dependent variable was the work engagement score. The independent variables

entered into the stepwise model selection procedure were the five leadership scores. Table 10

shows that only the challenging the process and enabling others to act scores were statistically

significant, $F_{(2, 210)} = 21.70$; $p < .001$. The R-square attributed to the model was .17, which

means CTP and EOA collectively explain 17.00% of the total variance in work engagement

scores. The challenging the process score was the stronger predictor of the two. The challenging

the process score explained 15.50% of the total variance in work engagement scores whereas the

enabling others to act score explained only an additional 1.60% of the variance in work

engagement scores.

The equation of the model formula required for use: WE = 2.77 + .021*CTP + .023*EOA, where WE = the average work engagement score, CTP = the challenging the process score, and EOA = the enabling others to act score. The interpretation of the model was, when controlling for the enabling others to act leadership style, the average work engagement score was expected to increase by .021 points for every one-point increase in the challenging the process score. When controlling for the challenging the process leadership style, the average work engagement score was expected to increase by .023 points for every one-point increase in the enabling others to act score. The null hypothesis failed rejection because only two of the five leadership style scores were statistically significant. Only the challenging the process and enabling others to act scores add independent information in predicting work engagement.

Table 10

Stepwise Multiple Linear Regression of Work Engagement Versus the Five Leadership Style Scores

Model [a, b, c]	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	p-value	Collinearity Statistics VIF
(Constant)	2.77	.42		6.59		
					<.001	
Challenging the Process [d]	.02	.01	.26	2.87	.004	2.09
Enabling Others to Act [e]	.02	.01	.18	2.03	.044	2.09

Note. a. Dependent Variable: Work Engagement

b. $F_{(2, 210)} = 21.70$; $p < .001$

c. R-square attributed to the total model = .17

d. R-square attributed to Challenging the Process = .155

e. R-square attributed to Enabling Others to Act = .016

Research question six. What is the extent to which blue-collar workers' modeling the way (MTW), inspiring a shared vision (ISV), challenging the process (CTP), enabling others to act (EOA), and encouraging the heart (ETH) leadership styles add independent information in predicting their level of workplace engagement (WE)?

Research question six conclusion. Study results find that only two of the five leadership styles challenging the process (CTP) and enabling others to act (EOA) scores add independent information in predicting work engagement (WE).

<div align="center">

Findings

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This study finds that there exists a relationship between perceived leadership ability and workplace engagement. The establishment of this relationship could be significant to the development of both leadership and engagement. In teaching leadership to all employees employers could develop a more productive and efficient organization. These findings also suggest that in an assessment of the blue-collar workforce future leadership needs consideration.

<div align="center">

Summary

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This study found strong evidence to suggest that work engagement among HVACR technician blue-collar workers is statistically, significantly, positively correlated with all five leadership styles. A link between persevered leadership ability and engagement was evident in the results of the study. Of the five leadership styles, challenging the process had the strongest correlation with work engagement. When considering all five leadership styles collectively, only challenging the process and enabling others to act contribute independent information in predicting work engagement.

Chapter 5 covers the study's findings related to the literature on leadership and engagement, the conclusions of findings, the limitations of those findings, generalizations based

on the findings, and the study's scope. Recommendations based on study data are included in

Chapter 5 to further the knowledge of the subject of leadership and engagement among those in

the business, trades, and academic community.

Chapter 5: Conclusions and Recommendations

Study Summary

Chapter 5 takes the data as presented in Chapter 4 and develops some meaning based on that data. This meaning serves as the catalyst to develop study conclusions and recommendations. Each preceding chapter of this study set the foundations on which this final chapter's conclusions, implications, and recommendations rest. This study examined people in motion in the workplace. A strong candidate as a catalyst of this motion could be workplace engagement. Employee engagement is critical to the success of businesses in the competitive global marketplace (Konrad, 2006). A Gallop Organization study of 7,939 businesses in 36 countries found a direct link between employee engagement and customer satisfaction, profitability, productivity, and employee retention (Konrad, 2006). Workplace leadership is not just about one's place in an organization. Leadership in the simplest of terms is about one's ability to get things done (Hesselbein & Goldsmith, 2006). In this context, each person in the organization could be critical to achieving organizational goals potentially making every person in the organization a leader at some level. This makes knowing if there exists a relationship between perceived leadership and engagement potentially critical to the success of many businesses.

Chapter 1 introduced the nature and circumstances of the study problem and the importance of the study problem to leadership, engagement, and business success. The value and definition of study research questions and significant hypotheses presentation took place in Chapter 1. Chapter 1 helped illustrate the significance of a relationship between preceded leadership ability and engagement to blue-collar workers. Within Chapter 1, a descriptive analysis of the population of the study took place. This analysis helped in the development of an

understanding into the nature and work environment of HVACR technicians who are a hardworking class of individuals with skills and abilities that place them in a unique position of power and responsibility. In Chapter 1, the study's quantitative correlational structure design review and justified takes place.

The review of the literature presented in Chapter 2 helped set the backdrop for the support of the study and the importance of the study to engagement and leadership research, personal, professional, and organizational growth. Chapter 2 documented the current and historical importance of leadership and engagement in their many forms along with the dangers of the isolation of power and leadership in the hands of the few. Within Chapter 2, an introduction of the concept of shared leadership and the importance of developing the leader within each member of the organization helped set the direction of the study. In Chapter 2 an introduction into the importance of self-leadership in establishing and expressing the voice within was linked to leadership in one's personal and professional life (Neck & Manz, 2007). Chapter 2 established the possible link between leadership and engagement and the gap in knowledge about this possible link.

Chapter 3 outlined the research methodology and the study approach to extending the knowledge of leadership and engagement to the academic and business community. The content of Chapter 3, included study architecture and the validity and reliability analysis of study tools, design, and methodology. Chapter 3 set the framework upon which Chapter 4 drives answers and developed the themes used in the summation of this study in Chapter 5. The research questions, study hypotheses, study tools, and data analysis methods outlined in Chapter 3 enabled study results and recommendations.

In Chapter 4, the evidence of the study was developed and presented. Chapter 4 included the data driven from the research study's tools in a format that directed the flow of Chapter 5. The research data evaluated in Chapter 4 provided evidence of a link between leadership and engagement.

Chapter 5 explored the evidence revealed in Chapter 4 on the link between leadership and engagement. The focus of Chapter 5 was on the conclusions, scope, limitations, and the implications of the results presented in Chapter 4. The link between leadership and engagement explored in Chapter 5 will conclude with an invitation to turn knowledge into opportunity.

Discussion

Success in any endeavor, independent of environment or field, often requires commitment to that success from every level within an organization or group. This commitment needs to come not out of indifference or reluctant obedience. This commitment needs to come from individual wants and desires (Yukl, 2010). A common thread that links leadership and engagement is a deep commitment that drives individual vigor, dedication, and absorption (Macey & Schneider, 2008). It is commitment that drives individuals to identify themselves with organizations, groups, and other individuals or endeavors in the long-term interests in those for whom the commitment is directed (Macey & Schneider, 2008).

Engagement is a psychological state in which an individual finds himself or herself that corresponds to behaviors and outcomes highly favorable to those the engagement is directed (Macey & Schneider, 2008). Maslow's and Alderfer's needs theories suggest that a person's needs align with and are in direct relationship to a person's psychological state (Noe, 2008). Maslow and Alderfer agreed that satisfaction of psychological state needs is a driving force in a person's decision making (Noe, 2008). Engagement, therefore, could result in achieving some

level of psychological state needs of employees and drive these employees to greater organizational value and leadership opportunities.

Without commitment to performance and outcomes, the perpetuation of human existence or progress would be unlikely (Nagle, 2010). The strength and success of the Roman Empire had less to do with the structure of the Roman Constitution and more with the results of the commitment of those within Roman society (Nagle, 2010). When the commitment of the Romans was lost, so was the empire (Nagle, 2010). Based on the evidence, the power of commitment could be one of the most influential properties of a successful endeavor. Four of the most significant properties of leadership include high-level technical ability, uncompromising ethics, engagement, and commitment (Hesselbein & Goldsmith, 2006).

Successful leadership is doubtful without engagement (Hesselbein & Goldsmith, 2006). The link between engagement and leadership provided by this study was significant to the study of both leadership and engagement. This link could provide new opportunities for organizational success and the development of new leaders. Leadership is critical to the success and growth of an organization (Noe, 2008). Engagement of employees is essential to the building of a successful team and a growing organization (Noe, 2008). By developing and preparing, those employees with the aptitude and desire for leadership in an organization could receive the benefit of an enhanced level of employee engagement and the opportunity for new leadership. To accomplish long-term success and perpetuate the organization's existence requires that organizations inspire those within the organization to become future leaders (Hesselbein & Goldsmith, 2006).

Findings and Conclusions of the Survey Research

Many researchers have studied both leadership and engagement, however, there are very few who have considered both leadership and engagement research together especially with blue-collar workers. The world of business is changing dramatically because of technology, availability of natural resources and the skills needed from human resources. To meet these changing needs requires businesses to rethink the leadership paradigm. The findings of this study suggest that there was a relationship between perceived leadership ability and workplace engagement. These findings when applied to the needs of an organization could provide the much-needed answers to a dwindling leadership pool and the needs for improved skill performance from employees.

Characteristics of Leadership among HVACR Technicians

The LPI portion of the study's survey documents the perceived leadership of HVACR technicians. The LPI section of the study survey included 30 questions designed to identify the five LPI major leadership characteristics. These characteristics include the following: (a) modeling the way, (b) inspiring a shared vision, (c) challenging the process, (d) enabling others to act, and (e) encouraging the heart. Cronbach's alpha scale ranges from 0-1.0 and results of .60 to .70 are the minimum range levels of reliability (Aron et al., 2009). The alpha range of .7 or higher indicated that the survey participant exhibited the associated trait. The Cronbach's alpha scores were modeling the way .72, inspiring a shared vision .86, challenging the process .83, enabling others to act .69, and encouraging the heart .81, each of the leadership variables received a score greater than .70 except enabling others to act. The enabling others to act score of .69 was just below .7 and still in the range of .6-.7 minimum requirements. The .69 score was not considered to be a major limitation of the study. The conclusion based on survey analysis

was that all five of the leadership characteristics are indicative among the study's participating HVACR technicians.

Engagement Among HVACR Technicians

The workplace engagement section of the study used the Uretecht Work Engagement Scale questionnaires (UWES) to evaluate HVACR technician engagement levels. As with the leadership survey, the Cronbach's alpha was required to evaluate the significant of study results for HVACR technician engagement. The engagement survey included 17 questions directed to evaluate levels of HVACR technician engagement. The Cronbach's alpha results for the engagement survey were .87 indicating that study participants had high levels of engagement.

Multiple Linear Regression Analysis

The technique of analyzing the collective and separate effects of two or more independent variables on a dependent variable is multiple regression (Creswell, 2005). Correlation research incorporates correlation statistics to predict future events (Creswell, 2005). The hypothesis six data collected in this study enabled an evaluation of the existence of a relationship between perceived leadership ability and workplace engagement to aid in determining if leadership characteristics can predict engagement. The null hypothesis was that the properties of leadership could not predict engagement and required rejection because only two of the five leadership styles scores were statistically significant. The conclusion of the analysis was that only the challenging the process and enabling others to act scores added independent information in predicting work engagement. Though the link to engagement failed, validation for each of the LPI characteristics of leadership the fact two of the five characteristics provides support for the proposition that to predict levels of engagement does stimulate additional thought provoking curiosity into the subject. The data provided by this study could

support contingency theory. Contingency theory suggests that leadership traits are contingent on the leadership environment. The contingency link could support the importance of the findings of hypotheses 6. This link further suggests the need for additional research into the subjects covered in this study.

Limitations

This study included only HVACR technicians in California limiting the exposure of this study to a small group of blue-collar workers. The results of this study, though significant, may not be a reflection of other demographics. This study was limited to 213 HVACR technicians and was an indicator of the nature of this small group. Even though study participants came from a large number of organizations, study bias was a consideration. Larger samplings that are more diverse could increase the significance of results. The survey instruments used in this study were self-reflecting therefore study results dependencies like to the physiological state of study participants at the time of the participation. The physiological dependencies of each person directly influence study results. Each study survey instrument has a high level of reliability, however, study participant lack of self-awareness or understanding of survey questions and selectable responses could limit the accuracy of selected responses. Study participation convenience could have been a limiting factor to participation and completion. Study participation required the accessing of the study survey through an online survey tool. Access to the study survey required participants to enter a complex password. The study survey required acknowledgment of consent. Additionally the study required 20-30 minutes to complete. Each of these factors could have limited or influenced study results.

For some leadership is a fundamental ingredient in the success or failure of an endeavor. Engagement for some is a component of leadership without which leadership may not be

possible. The extent of participants' levels of leadership and engagement could have influenced study participation and study results. Additional research is required to identify accurately additional limitations of this study.

Implications

Without leadership, direction, and purpose, moral and ethical conduct could be very difficult if not impossible to achieve. In a Stanford Prison study conducted in 1971 two sets of college students volunteered for an experiment into human nature (Baron, Branscombe, & Byrne, 2009). One set assumed the position of prisoners, the other assumed the position of prison guard (Baron et al.,2009). The study found that strong psychological factors could overcome a person's personal values, take good people, and drive him or her to evil acts (Baron et al.,2009). The Stanford study and others that followed provide strong evidence to support the need for high levels of ethical and moral commitment in those that seek the mantle of leadership. One of the most important lessons in leadership teaches a person to find his or her own voice and have the courage to do what is right, moral, and ethical (Hesselbein & Goldsmith, 2006).

The idea of leadership as the sole property of those with title and position may soon only find refuge in the dark corners of a Neanderthal mind. The world is changing and along with this changes the power of leadership and the passion of engagement. History has "clearly demonstrated" the power of engagement and personal leadership in events such as the American Revolution, the American Civil Rights Movement, the fall of the Berlin Wall, the recent uprising in Egypt, and the tide of change that has toppled governments around the world. The consequence of leadership in the hands of a few often historically results in the corruption, violence, and destruction that encompass that leadership.

Today the Internet has helped bring forth social networks like Twitter, Facebook, MySpace, and Flickr that enables the faintest voice to ring out a call to action in a voice heard around the world. The power of the people at every level of an organization seeking a voice in the world's economy could yield tremendous value. The world is changing at an unprecedented rate; this change could require a new paradigm in how the people of the world work and how people interact with each other. Those organizations prepared for these changes and are willing to maximize the potential of their workforce could finish at the forefront of their industries. This study's data provides evidence to support the potential of the blue-collar workforce.

Recommendations

This study's results support further in-depth research into the link between perceived leadership and workplace engagement. Based on the findings of this study the recommendations are further research is needed to build on the study findings. The additional research should include a larger and more diverse study population. Future research should include open-ended study methods in which extended personal contact with each study participants is accomplished. Open-ended research questions can provide deeper, richer, more meaningfully, and more insightful answers to research questions (McDaniel & Gates, 2008). Open-ended study methods could build on this study's result and provide greater understanding into the relationship between leadership ability and engagement. Extending research into the link between perceived leadership ability and engagement to a more diverse population of white and blue-collar workers could provide new insight into this study's relevance across border populations. The development of blue-collar leadership training systems could provide opportunities for organizations to capitalize on employee performance and productivity through the introduction of leadership programs at the blue-collar level.

The application of leadership training and development in both apprenticeship and HVACR vocational training programs could help in the long-term development of HVACR technicians. Many times organizations view technicians as costs and not as assets, understanding the link between leadership and engagement could be an opportunity to maximizing the potential of the blue-collar workforce. To organizations this study should be a wakeup call to the potential within each employee and the importance of providing a voice and identifying employees as assets and not simply costs. Organizations should invest resources into the development of HVACR technician leadership abilities. B.F. Skinner, one of the most influential psychologists of all-time, believed that research ideas should be investigated immediately (Rowe, 2004). This study's recommendation complements B.F. Skinner's recommendations.

Significance to Leadership

This study was within the scope of organizational management and leadership. Organizational theory is the process through which work is accomplished. To accomplish this work requires assessment, division into categories, and assigned to groups, divisions, or teams for completion (Newstrom & Davis. 2002). The core of management theory is in the concept of providing contingent rewards for the successful accomplishment of tasks, assignments, or duties (Nahavandi, 2006). Researchers have found a statistical relationship between workplace engagement and an organization's productivity, profitability, employee retention, safety, customer satisfaction, and constructs like job satisfaction and commitment (Little & Little, 2006). In this study, the link between perceived leadership ability and engagement suggest that should organizations develop their HVACR technician's leadership ability organizations could receive the rewards associated with workplace engagement. Modern leadership theory is a scientific method of understanding, identifying, measuring leadership characteristics, and

predicting leadership effectiveness (Nahavandi, 2006). Employee engagement is a state in which a person is fully involved and enthusiastic about his or her work (Seijts & Crim, 2006).

In a time of increasing reliance on technology to develop and sustain a competitive business advantage the burden of leadership can no longer be reliant on the skills and abilities of an individual (Pearce, 2004). No one individual could harness the knowledge, skills, abilities, and experience necessary to compete effectively in the current technology sensitive business environment (Pearce, 2004). The responsibility of organizational leadership, therefore, needs to change form the traditional leadership model to one that incorporates leadership from every level within an organization (Pearce, 2004). To achieve leadership success requires a team striving toward a collective open mind, open heart, and an open will (Scharmer, 2009).

Leadership should no longer be the property of Harvard graduates or corporate CEOs; the mantle of leadership could be the responsibility of every worker in every organization. To accomplish this goal every worker in every organization requires assessment as to his or her potential leadership ability. These changes require businesses to alter employee roles, how employee assessment and developed new processes to meet this need. The world is what it is because of what has been made of the world and only individual will makes alternatives possible (Neck & Manz, 2007). The U.S. Constitution's first sentence starts with the words "We the people." Many organizations could find it advantageous if they focus on these inspirational words at the start of any strategic planning session. One of the most difficult tasks of shared leadership is the control of selfishness within each person in the team and working collaboratively to inspire and solve problems as a team (Bateman & Snell, 2009).

The benefit of engagement for many organizations is the value brought to the organizations compared to the resources needed to achieve that engagement. The core goal for

many organizations is to satisfy stakeholders and perpetuate the business. The results of this study support the development of leadership skills in all employees to help develop a more engaged workforce. A lack of interest in one's work can lead to carelessness, waste, and lack of personal responsibility (Seijts & Crim, 2006). Research has established a relationship between engagement and organizational profits (Macey & Schneider, 2008). This study provides data to support the link between perceived leadership skills and engagement. The applied knowledge of this study could help increase engagement and profitability of many organizations. This study provides observations that could provide potential answers to managers, leaders, and organizations in general to the leadership and profitability's needs of a highly competitive market.

Summary

This quantitative, correlational research study examined the relationship between perceived leadership ability and workplace engagement among blue-collar HVACR technicians. Analysis of the data presented in Chapter 4 led to the conclusion that there was a statistically significant, moderately strong positive correlation between perceived leadership ability and workplace engagement among blue-collar HVACR workers. This study provides insight into how personal responsibility is a product of leadership and a key driver of moral and ethical conduct (Rasaw, 2001). This study provides knowledge of how perceived leadership ability influences levels of workplace engagement among blue-collar HVACR technicians. This study found that the properties of leadership might provide indicators for predictive levels of engagement. The recommendations based on the findings of this study are to create and implement career development programs that support the development of blue-collar leadership and engagement. Workplace engagement can provide significant improvements in organizational

performance and profitability. The development of leadership skills in employees could provide and organize opportunities for growth and help support and perpetuate the organization's existence and competitive edge in the marketplace. In many organizations the focus is on reducing expenses, however, organizations need to invest in leadership capacity independent of the pressures to do otherwise (Hesselbein & Goldsmith, 2006)

Conclusion

The U. S. workforce consists primarily of baby boomers, which are at the onset of retirement age, and the prospect of replacing the aging workforce does not look promising (Nguyen, 2008). According to the U. S. Department of Labor data, 40% of all U. S. workers are 55 or older (Nguyen, 2008). Leaders of 85% of Fortune 500 companies believe that they do not have employees with the leadership skills necessary to compete effectively in the global economy (Noe, 2008). Estimates from the U.S. Bureau of Labor Statistics project a 28% increase in demand for qualified HVACR technicians by 2018 (U.S. Bureau of Labor Statistics, 2010).

Results from a survey conducted by IBM Making Change Work in 2008 of 1,500 managers in 15 countries worldwide documented that 60% of all change management programs necessitated by new technology rollout or internal restructuring failed to meet business objectives (Jorgensen, 2008). The IBM study provided supportive documentation that the development of employee skills, better communication, and employee involvement were critical to the success of change (Jorgensen, 2008). In the Towers study researchers discovered that organizations with highly engaged workers on average experience at least, a 1% increase in revenue growth above industry averages (Towers Perrin, 2003). Researchers in the Towers study also discovered that organizations with highly engaged employees experience lower costs of goods sold compared to the Dow Jones' industry sector averages (Towers Perrin, 2003).

According to Maslow in his theory of human motivation, each person has at least five basic needs (Maslow, 1943). These five basic needs include physiological, safety, love, esteem, and self-actualization (Maslow, 1943). When one asks, "What does an employee need?" one must deal with the very essence of Maslow's hierarchy of needs. It is important for managers and organizational leaders to understand that engaged employees often think very positively about their work. Additionally research indicates engaged employees are empowered by their work, are motivated to act and are looking to grow and develop their careers (Towers Perrin, 2008). The development of these types of attitudes is beneficial to both the organization and the employee.

This is a time of tremendous change, which requires people to change to meet the demands of a changing world. The technicians required to meet the needs of the HVACR industry will have a significantly different skill set requirement than those who preceded them. The same inference is likely of others entering other trades. This study provides insight into the link between leadership ability, engagement, and organizational strength along with individual needs. The results of this study present a compelling need for additional research into the relationship between leadership and engagement. Changes in the social and cultural fabric of society may require those organizations that seek success to develop new programs that align the needs of the organization with the needs of the individual worker.

The results of this study provide organizational leaders with knowledge useful in developing opportunities to direct the organization's workforce in a direction conducive to both short-term and long-term organizational growth and increased profit margins. Employees and future leaders could take the knowledge gained in this study to leverage opportunities for personal and professional growth.

In 1963, Martin Luther King Jr. stated, "the ultimate measure of a man is not where he stands in moments of comfort and convenience, but where he stands at times of challenge and controversy" (King, 1981. p. 35). This is such a time for many organizations. The capacity to influence the future stems from one's wisdom or knowledge (Kenrick et al., 2007). This study provides the opportunity for wisdom gained through knowledge to lessen the discomfort and inconvenience the future may hold.

The question posed to future researchers is simply "If every person has the capacity for leadership what consequence will that power bring?" In 1931, Hitler became chancellor of Germany (Yukl, 2006). Hitler was like the legendary pied piper however, in Hitler's case, he entranced his followers to commit unprecedented atrocities and orchestrated the suffering and murder of millions. The Egyptian pharaohs clamed themselves gods and delved to millions of their people a life of pain and suffering (Nagle, 2010). The Romans, Babylonians, and countless others throughout history, repeat the same barbaric story. This story creeps into our lives in the news reports filling the airways daily. If one could paint a picture of a world, where each person expressed his or her inner voice would, we find a new world filled with those unwilling to follow those that would abuse his or her gift of leadership. This was just a small study of a select group of blue-collar workers, however, the possibilities reviled in additional research could prove rewarding. After all instilling a vision in others is a process of developing in others a picture of the future that appeals to their values, self-interest, hopes, dreams, and deep-seated desires (Kouzes & Posner, 1995).

According to *Fortune* magazine, a shared vision is one of the most important properties of leadership (Pearce, 2004). HVACR technicians with a vision could lead themselves and their organizations to expanding opportunities. It is not enough just to recognize the existence of an

organization's needs. Organizations need to be proactive in the creation of solutions that complement the needs of the organization and the needs of those within the organization's workforce. Leadership is required at all levels to vitalize an organization, facilitate the changes necessary to remain competitive in the global marketplace, and secure organizational success (Yukl, 2010). This study answers two complex questions: "Who cares about this study and what kind of results are provided?" The answer as illustrated throughout this chapter is any organization or individual who seeks to maximize personal and professional success. The last question answered in this study was "So what?" Organizations must maximize profitability to satisfy stakeholders. Individuals need to maximize competitive value. The so what of this study was presented in the form of answers to what drives human needs and evolution.

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    Hall.

APPENDIX A: Informed Consent Form

Volunteer Consent Form

UNIVERSITY OF PHOENIX

Consent to Act as A Research Subject: Participants over 18 years of age

Hello, my name is Tim Muckey. I am conducting a research study entitled examining blue-collar worker leadership behavior and workplace engagement.

I have worked as a service technician in the HVACR industry for over 35 years. Early in my career, I started down an educational path that has led me to the study and the need for your support. I am a student at the University of Phoenix working on a doctorate degree in Management and Leadership. Your participation in the research study is voluntary. You may choose not to participate. If you decide to participate in the research survey, you may withdraw at any time. If you wish to exit the survey at any time, simply select the "exit the survey" button in the upper right of each page. If you decide not to participate in the study or if you withdraw from participating at any time, you will not be penalized. The study requires participants to take part in an online survey that will take approximately 30 minutes. There are no foreseeable risks to you in this study. All data will be stored in a password protected electronic format. The surveys will not require information that will personally identify you. Results of the study are used for scholarly purposes only and study results may be shared with university representatives. Although there may be no direct benefit to you for taking part in the study your participation could help provide HVACR technicians opportunities for personal and professional growth.

If you have any questions about the research study or the rights of study participants, please contact Tim Muckey at Tim@muckey.com. The research has been reviewed according to University IRB procedures for research involving human subjects. To remove your data from

consideration at any time, simply email Tim@muckey.com using the E-mail address listed in the

demographic portion of this study or reference this E-mail address when requesting your data

will be removed from consideration in the study. When this feedback is received and input

identified, the data will be removed from consideration in the study.

Thank you!

ELECTRONIC CONSENT: Please select your choice below.

Clicking on the "Accept" button acknowledges that you understand the nature of the study, the

potential risks to you as a participant, the means by which your identity will be kept confidential

and understand the following:

- You may decline to participate or withdraw from participation at any time without consequences

- Your identity will be kept confidential

- Timothy R Muckey, the researcher, has thoroughly explained the parameters of the research
  study and all of your questions and concerns have been addressed.

- Study data will be stored in a secure and locked area. The data will be held for a period of no
  more than three years, and then destroyed.

- The research results will be used for publication.
- You voluntarily agree to participate in this study

- You are at least 18 years of age

- You are an HVACR technician

    If you do not wish to participate in the research study, please decline participation by clicking

on the "Decline" button. Thank you

APPENDIX B: LPI Request Letter

Kouzes Posner international

15419 Banyan Lane

Monte Sereno, California 95030

My Name is Tim Muckey I am a Doctoral student at the University of Phoenix. I would like to gain permission from your organization to use the LPI survey in my dissertation. My dissertation will study the relationship between blue-collar leadership skills or abilities and their work engagement.

I have the following questions

1) May I have your permission to use your survey for my study?

2) May I administer your survey online using the www.surveymonkey.com web site?

3) Will you please provide me with the scoring instructions for your survey? By scoring instructions, I mean, which questions on the survey go with each of the 5 leadership style scores? Do any of the items need to be reverse coded prior to computing the score? How are the scores computed, by summing the questions or taking the average?

Thank you for your time and consideration.

Tim Muckey

2702 Harrison Street

Carson Ca. 90810

(310) 835-1386

Email:Tim@Muckey.com

APPENDIX C: LPI Consent Form

KOUZES POSNER INTERNATIONAL
15419 Banyan Lane
Monte Sereno, California 95030
FAX: (408) 354-9170

December 10, 2008

Mr. Timothy Muckey
2702 Harrison Street
Carson, California 90810

Dear Timothy,

Thank you for your request to use the Leadership Practices Inventory (LPI) in your dissertation. We are willing to allow you to *reproduce* the instrument in written form, as outlined in your letter, at no charge, with the following understandings:

(1) That the LPI is used only for research purposes and is not sold or used in conjunction with any compensated management development activities;
(2) That copyright of the LPI, or any derivation of the instrument, is retained by Kouzes Posner International, and that the following copyright statement is included on all copies of the instrument: "Copyright © 2003 James M. Kouzes and Barry Z. Posner. All rights reserved. Used with permission.";
(3) That one (1) **electronic** copy of your dissertation and one (1) copy of **all** papers, reports, articles, and the like which make use of the LPI data be sent **promptly** to our attention; and,
(4) That you agree to allow us to include an abstract of your study and any other published papers utilizing the LPI on our various websites.

If the terms outlined above are acceptable, would you indicate so by signing one (1) copy of this letter and returning it to us. Best wishes for every success with your research project.

Cordially,

Barry Z. Posner, Ph.D.
Managing Partner

I understand and agree to abide by these conditions:

(Signed) _____ Date: 2-1-09

APPENDIX D: UWES Consent Form

From: Schaufeli, W. (Wilmar) [w.schaufeli@uu.nl]

Sent: Thursday, February 19, 2009 1:23 AM

To: Tim Muckey

Subject: RE: UWES

Dear Tim,

The use of the UWES is free for research purposes, such as your PhD. Please have a look at my website (address below) for the conditions. You may also administer the survey on-line, provided that it is for a limited period.

Good luck with your dissertation project.

With kind regards,

Wilmar Schaufeli

Notice for potential users of the UWES and the DUWAS

- You are welcomed to use both tests provided that you agree to the following two conditions:

    1. The use is for non-commercial educational or research purposes only. This means that no one is charging anyone a fee.

    2. You agree to share some of your data, detailed below, with the authors. We will add these data to our international database and use them only for the purpose of further validating the UWES (e.g., updating norms, assessing cross-national equivalence).

- Data to be shared:
  For each sample, the raw test-scores, age, gender, and (if available) occupation. Please adhere to the original answering format and sequential order of the items.
  For each sample a brief narrative description of its size, occupation(s) covered, language, and country.

- Please send data to: w.schaufeli@uu.nl. Preferably the raw data file should be in SPSS or EXCEL format.

- By continuing to the test forms you agree with the above statement.

---

http://www.schaufeli.com/

APPENDIX E: Survey Demographics

Thank you for being part of the research project. Please read each statement and select the best answer to the following demographic questions.

1 What is your Heating Ventilation, Air Conditioning or Refrigeration industry skill level?

Student   Helper   Apprentice   Supervisor   Helper   Journeyman/Technician

Manager   Other

2 Male or Female

Male   Female

3 Time in Heating Ventilation, Air Conditioning or Refrigeration industry?

2 years or less   3-5 years   6-10 years   11-15 years   16-20 years

21-30 years   Greater than 30 years

4. What is your location?

Northern California   Southern California   Midwest United States   Eastern United States   West

United States   Other (Please specify)

5. What is you highest level of education?

Less than High school   High School/GED graduate   Vocational school graduate   2-year

college degree (Associates)   4-Year college degree (BA,BS)   Master's Degree, Doctoral

Degree Profesional Degree (MD, JD) Other (Please specify)

6. Please enter E-Mail address to be used to identify your responses should you seek to have your input removed from consideration at a later date.

Contact E-mail address

APPENDIX F: SUREY LPI

Please take your time and read each statement and select the best answer from the dropdown box that describes your view.

1.   I set a personal example of what I expect from others.

Almost Never   Rarely   Seldom   Once in a While

Occasionally   Sometimes   Fairly Often   Usually

Very Frequently   Almost Always   Prefer not to respond

2.   I talk about future trends that will influence how our work gets done.

Almost Never   Rarely   Seldom   Once in a While

Occasionally   Sometimes   Fairly Often   Usually

Very Frequently   Almost Always   Prefer not to respond

3.   I seek out challenging opportunities that test my own skills and abilities.

Almost Never   Rarely   Seldom   Once in a While

Occasionally   Sometimes   Fairly Often   Usually

Very Frequently   Almost Always   Prefer not to respond

4.   I develop cooperative relationships among the people I work with.

Almost Never   Rarely   Seldom   Once in a While

Occasionally   Sometimes   Fairly Often   Usually

Very Frequently   Almost Always   Prefer not to respond

5.   I praise people for a job well done.

Almost Never   Rarely   Seldom   Once in a While

Occasionally   Sometimes   Fairly Often   Usually

Very Frequently   Almost Always   Prefer not to respond

6.   I spend time and energy making certain that the people I work with adhere to the

principles and standards that we have agreed on.

Almost Never   Rarely   Seldom   Once in a While

Occasionally   Sometimes   Fairly Often   Usually

Very Frequently   Almost Always   Prefer not to respond

7.   I describe a compelling image of what our future could be like.

Almost Never   Rarely   Seldom   Once in a While

Occasionally   Sometimes   Fairly Often   Usually

Very Frequently   Almost Always   Prefer not to respond

8.   I challenge people to try out new and innovative approaches to their work.

Almost Never   Rarely   Seldom   Once in a While

Occasionally   Sometimes   Fairly Often   Usually

Very Frequently   Almost Always   Prefer not to respond

9.   I actively listen to diverse points of view.

Almost Never   Rarely   Seldom   Once in a While

Occasionally   Sometimes   Fairly Often   Usually

Very Frequently   Almost Always   Prefer not to respond

10.   I make it a point to let people know about my confidence in their abilities.

Almost Never   Rarely   Seldom   Once in a While

Occasionally   Sometimes   Fairly Often   Usually

Very Frequently   Almost Always   Prefer not to respond

**11.	I follow through on the promises and commitments that I make.**

Almost Never	Rarely	Seldom	Once in a While

Occasionally	Sometimes	Fairly Often	Usually

Very Frequently	Almost Always	Prefer not to respond

**12.	I appeal to others to share an exciting dream of the future.**

Almost Never	Rarely	Seldom	Once in a While

Occasionally	Sometimes	Fairly Often	Usually

Very Frequently	Almost Always	Prefer not to respond

**13.	I search outside the formal boundaries of my organization for innovative ways to**

improve what we do.

Almost Never	Rarely	Seldom	Once in a While

Occasionally	Sometimes	Fairly Often	Usually

Very Frequently	Almost Always	Prefer not to respond

**14.	I treat others with dignity and respect.**

Almost Never	Rarely	Seldom	Once in a While

Occasionally	Sometimes	Fairly Often	Usually

Very Frequently	Almost Always	Prefer not to respond

**15.	I make sure that people are creatively rewarded for their**

contributions to the success of our projects.

Almost Never	Rarely	Seldom	Once in a While

Occasionally	Sometimes	Fairly Often	Usually

Very Frequently	Almost Always	Prefer not to respond

16.   I ask for feedback on how my actions affect other people's performance.

Almost Never   Rarely   Seldom   Once in a While

Occasionally   Sometimes   Fairly Often   Usually

Very Frequently   Almost Always   Prefer not to respond

17.   I show others how their long-term interests can be realized by enlisting in a common vision.

Almost Never   Rarely   Seldom   Once in a While

Occasionally   Sometimes   Fairly Often   Usually

Very Frequently   Almost Always   Prefer not to respond

18.   I ask "What can we learn?" when things don't go as expected.

Almost Never   Rarely   Seldom   Once in a While

Occasionally   Sometimes   Fairly Often   Usually

Very Frequently   Almost Always   Prefer not to respond

19.   I support the decisions that people make on their own.

Almost Never   Rarely   Seldom   Once in a While

Occasionally   Sometimes   Fairly Often   Usually

Very Frequently   Almost Always   Prefer not to respond

20.   I publicly recognize people who exemplify commitment to shared values.

Almost Never   Rarely   Seldom   Once in a While

Occasionally   Sometimes   Fairly Often   Usually

Very Frequently   Almost Always   Prefer not to respond

21.   I build consensus around a common set of values for running our organization.

Almost Never   Rarely   Seldom   Once in a While

Occasionally   Sometimes   Fairly Often   Usually

Very Frequently   Almost Always   Prefer not to respond

22.   I paint the "big picture" of what we aspire to accomplish.

Almost Never   Rarely   Seldom   Once in a While

Occasionally   Sometimes   Fairly Often   Usually

Very Frequently   Almost Always   Prefer not to respond

23.   I make certain that we set achievable goals, make concrete plans, and establish

measurable milestones for the projects and programs that we work on.

Almost Never   Rarely   Seldom   Once in a While

Occasionally   Sometimes   Fairly Often   Usually

Very Frequently   Almost Always   Prefer not to respond

24.   I give people a great deal of freedom and choice in deciding how to do their work.

Almost Never   Rarely   Seldom   Once in a While

Occasionally   Sometimes   Fairly Often   Usually

Very Frequently   Almost Always   Prefer not to respond

25.   I find ways to celebrate accomplishments.

Almost Never   Rarely   Seldom   Once in a While

Occasionally   Sometimes   Fairly Often   Usually

Very Frequently   Almost Always   Prefer not to respond

26.   I am clear about my philosophy of leadership.

Almost Never   Rarely   Seldom   Once in a While

Occasionally   Sometimes   Fairly Often   Usually

Very Frequently   Almost Always   Prefer not to respond

27.   I speak with genuine conviction about the higher meaning and

purpose of our work.

Almost Never   Rarely   Seldom   Once in a While

Occasionally   Sometimes   Fairly Often   Usually

Very Frequently   Almost Always   Prefer not to respond

28.   I experiment and take risks, even when there is a chance of failure.

Almost Never   Rarely   Seldom   Once in a While

Occasionally   Sometimes   Fairly Often   Usually

Very Frequently   Almost Always   Prefer not to respond

29.   I ensure that people grow in their jobs by learning new skills and developing

themselves.

Almost Never   Rarely   Seldom   Once in a While

Occasionally   Sometimes   Fairly Often   Usually

Very Frequently   Almost Always   Prefer not to respond

30.   I give the members of the team lots of appreciation and support for their

contributions.

Almost Never   Rarely   Seldom   Once in a While

Occasionally   Sometimes   Fairly Often   Usually

Very Frequently   Almost Always   Prefer not to respond

APPENDIX G: Survey UWES

Please take your time and read each statement and select the best answer from the dropdown box that describes your view.

1.   At my work, I feel bursting with energy.

Never Almost Never (A few times a year or less) Rarely (Once a month or less)

Sometimes (A few times a month) Often (Once a week)

Very Often (A few times a week) Always (Every day) Prefer not to respond

2.   I find the work that I do have full of meaning and purpose.

Never Almost Never (A few times a year or less) Rarely (Once a month or less)

Sometimes (A few times a month) Often (Once a week)

Very Often (A few times a week) Always (Every day) Prefer not to respond

3.   Time flies when I'm working.

Never Almost Never (A few times a year or less) Rarely (Once a month or less)

Sometimes (A few times a month) Often (Once a week)

Very Often (A few times a week) Always (Every day) Prefer not to respond

4.   At my job, I feel strong and vigorous.

Never Almost Never (A few times a year or less) Rarely (Once a month or less)

Sometimes (A few times a month) Often (Once a week)

Very Often (A few times a week) Always (Every day) Prefer not to respond

5.   I am enthusiastic about my job.

Never Almost Never (A few times a year or less) Rarely (Once a month or less)

Sometimes (A few times a month) Often (Once a week)

Very Often (A few times a week) Always (Every day) Prefer not to respond

6.   When I am working, I forget everything else around me.

Never Almost Never (A few times a year or less) Rarely (Once a month or less)

Sometimes (A few times a month) Often (Once a week)

Very Often (A few times a week) Always (Every day) Prefer not to respond

7.   My job inspires me.

Never Almost Never (A few times a year or less) Rarely (Once a month or less)

Sometimes (A few times a month) Often (Once a week)

Very Often (A few times a week) Always (Every day) Prefer not to respond

8.   When I get up in the morning, I feel like going to work.

Never Almost Never (A few times a year or less) Rarely (Once a month or less)

Sometimes (A few times a month) Often (Once a week)

Very Often (A few times a week) Always (Every day) Prefer not to respond

9.   I feel happy when I am working intensely.

Never Almost Never (A few times a year or less) Rarely (Once a month or less)

Sometimes (A few times a month) Often (Once a week)

Very Often (A few times a week) Always (Every day) Prefer not to respond

10.   I am proud of the work that I do.

Never Almost Never (A few times a year or less) Rarely (Once a month or less)

Sometimes (A few times a month) Often (Once a week)

Very Often (A few times a week) Always (Every day) Prefer not to respond

11.   I am immersed in my work.

Never Almost Never (A few times a year or less) Rarely (Once a month or less)

Sometimes (A few times a month) Often (Once a week)

Very Often (A few times a week) Always (Every day) Prefer not to respond

12.   I can continue working for very long periods of time.

Never Almost Never (A few times a year or less) Rarely (Once a month or less)

Sometimes (A few times a month) Often (Once a week)

Very Often (A few times a week) Always (Every day) Prefer not to respond

13.   To me, my job is challenging.

Never Almost Never (A few times a year or less) Rarely (Once a month or less)

Sometimes (A few times a month) Often (Once a week)

Very Often (A few times a week) Always (Every day) Prefer not to respond

14.   I get carried away when I'm working.

Never Almost Never (A few times a year or less) Rarely (Once a month or less)

Sometimes (A few times a month) Often (Once a week)

Very Often (A few times a week) Always (Every day) Prefer not to respond

15.   At my job, I am very resilient mentally.

Never Almost Never (A few times a year or less) Rarely (Once a month or less)

Sometimes (A few times a month) Often (Once a week)

Very Often (A few times a week) Always (Every day) Prefer not to respond

16.   It is difficult to detach myself from my job.

Never Almost Never (A few times a year or less) Rarely (Once a month or less)

Sometimes (A few times a month) Often (Once a week)

Very Often (A few times a week) Always (Every day) Prefer not to respond

17.   At my work, I always persevere even when things do not go well.

Never Almost Never (A few times a year or less) Rarely (Once a month or less)

Sometimes (A few times a month) Often (Once a week)

Very Often (A few times a week) Always (Every day) Prefer not to respond

APPENDIX H: RSES Permission

UNIVERSITY OF PHOENIX

PERMISSION TO USE PREMISES, NAME, AND/OR SUBJECTS
(Facility, Organization, University, Institution, or Association)

Refrigeration Service Engineers Society (RSES)

Name of Facility, Organization, University, Institution, or Association

Check any that apply:

☐ I hereby authorize Timothy R Muckey, student of University of Phoenix, to use the premises (facility identified below) to conduct a study entitled **Examining Blue-Collar Worker Leadership Behavior and Workplace Engagement.**

☒ I hereby authorize Timothy R Muckey, student of University of Phoenix, to recruit subjects for participation in a conduct a study entitled **Examining Blue-Collar Worker Leadership Behavior and Workplace Engagement..**

☐ I hereby authorize Timothy R Muckey, student of University of Phoenix, to use the name of the facility, organization, university, institution, or association identified above when publishing results from the study entitled **Examining Blue-Collar Worker Leadership Behavior and Workplace Engagement...**

Signature   Date

Mark A. Lowry

Name

Executive Vice President

Title,

1666 Rand Road
Des Plaines, IL 60016
Address of Facility

APPENDIX I: Union 250 Permission

PERMISSION TO USE PREMISES, NAME, AND/OR SUBJECTS
(Facility, Organization, University, Institution, or Association)
Local Union 250

Steam-Refrigeration-Air Conditioning-Pipefitters & Apprentices of the United Association of the United States and Canada

Name of Facility, Organization, University, Institution, or Association

Check any that apply:

☒ I hereby authorize <u>Timothy R Muckey</u>, student of University of Phoenix, to use the premises (facility identified below) to conduct a study entitled **Examining Blue-Collar Worker Leadership Behavior and Workplace Engagement.**

☒ I hereby authorize <u>Timothy R Muckey</u>, student of University of Phoenix, to recruit subjects for participation in a conduct a study entitled **Examining Blue-Collar Worker Leadership Behavior and Workplace Engagement.**

☒ I hereby authorize <u>Timothy R Muckey</u>, student of University of Phoenix, to use the name of the facility, organization, university, institution, or association identified above when publishing results from the study entitled **Examining Blue-Collar Worker Leadership Behavior and Workplace Engagement...**

(signature)   7-27-10

Signature   Date

RICK HATLEN

Name

DIRECTOR OF TRAINING

Title,

Address of Facility
2220 S. HILL ST. LOS ANGELES CALIF. 90007

1

APPENDIX J: Trane Permission

UNIVERSITY OF PHOENIX

PERMISSION TO USE PREMISES, NAME, AND/OR SUBJECTS
(Facility, Organization, University, Institution, or Association)

Trane California District

Name of Facility, Organization, University, Institution, or Association

Check any that apply:

☐ I hereby authorize <u>Timothy R Muckey</u>, student of University of Phoenix, to use the premises (facility identified below) to conduct a study entitled **Examining Blue-Collar Worker Leadership Behavior and Workplace Engagement.**

☒ I hereby authorize <u>Timothy R Muckey</u>, student of University of Phoenix, to recruit subjects for participation in a conduct a study entitled **Examining Blue-Collar Worker Leadership Behavior and Workplace Engagement..**

☐ I hereby authorize <u>Timothy R Muckey</u>, student of University of Phoenix, to use the name of the facility, organization, university, institution, or association identified above when publishing results from the study entitled **Examining Blue-Collar Worker Leadership Behavior and Workplace Engagement...**

[signature]   **08/06/2010**

Signature   Date

<u>Louise Rasmussen</u>

Name

<u>Human Resources Manager</u>

Title

<u>Trane 17760 Rowland Street City of Industry CA 91748</u>

Address of Facility

APPENDIX K: Demographics Results

Frequency Tables and Descriptive Statistics for all Demographic Survey Questions

Do you understand and accept or decline the terms of this survey?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Accept	213	100.0	100.0	100.0

What is your Heating Ventilation, Air-conditioning or Refrigeration industry skill level?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Other	9	4.2	4.2	4.2
	Student	5	2.3	2.3	6.6
	Helper	4	1.9	1.9	8.5
	Apprentice	25	11.7	11.7	20.2
	Journeyman/Technician	120	56.3	56.3	76.5
	Supervisor	40	18.8	18.8	95.3
	Manager	10	4.7	4.7	100.0
	Total	213	100.0	100.0	

Skill (Other)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		204	95.8	95.8	95.8
	Building operations chief Engineer	1	.5	.5	96.2
	Facility Manager	1	.5	.5	96.7
	Journeyman / Instructor	1	.5	.5	97.2
	Journeyman/Technician with BAS background	1	.5	.5	97.7
	Lead Control and Mechanical Technician, Service Manager and Trainer	1	.5	.5	98.1
	Level 4 mechanic	1	.5	.5	98.6
	plant operator	1	.5	.5	99.1
	Service technician air conditioner	1	.5	.5	99.5
	Student ,helper, tech., apprentice	1	.5	.5	100.0
	Total	213	100.0	100.0	

Male or Female

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	188	88.3	92.2	92.2
	Female	16	7.5	7.8	100.0
	Total	204	95.8	100.0	
Missing	System	9	4.2		
	Total	213	100.0		

Time in Heating ventilation, air conditioning or refrigeration industry?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2 years or less	21	9.9	9.9	9.9
	3-5 years	26	12.2	12.3	22.2
	6-10 years	36	16.9	17.0	39.2
	11-15 years	19	8.9	9.0	48.1
	16-20 years	32	15.0	15.1	63.2
	21-30 years	51	23.9	24.1	87.3
	Greater than 30 years	27	12.7	12.7	100.0
	Total	212	99.5	100.0	
Missing	System	1	.5		
	Total	213	100.0		

What is your location?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Other	11	5.2	5.2	5.2
	Southern California	151	70.9	71.9	77.1
	Northern California	26	12.2	12.4	89.5
	Midwest United States	8	3.8	3.8	93.3
	Eastern United States	11	5.2	5.2	98.6
	Western United States	3	1.4	1.4	100.0
	Total	210	98.6	100.0	
Missing	System	3	1.4		
	Total	213	100.0		

Location (Other)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		202	94.8	94.8	94.8
	Arizona- Phoenix Metro	1	.5	.5	95.3
	British Columbia, Canada	1	.5	.5	95.8
	Canada	1	.5	.5	96.2
	Canada BC	1	.5	.5	96.7
	Central California	1	.5	.5	97.2
	Central United States	1	.5	.5	97.7
	Colorado	1	.5	.5	98.1
	Edmonton Alberta Canada	1	.5	.5	98.6
	Ontario, Canada	1	.5	.5	99.1
	Southern United States	1	.5	.5	99.5
	Southern Ontario Canada	1	.5	.5	100.0
	Total	213	100.0	100.0	

What is your highest level of education?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Other	10	4.7	4.7	4.7
	Less than High School	6	2.8	2.8	7.5
	High School/GED graduate	60	28.2	28.3	35.8
	Vocational school graduate	56	26.3	26.4	62.3
	2-Year College Degree (Associates)	61	28.6	28.8	91.0
	4-Year Degree (BA,BS)	19	8.9	9.0	100.0
	Total	212	99.5	100.0	
Missing	System	1	.5		
	Total	213	100.0		

Education (Other)

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	203	95.3	95.3	95.3
2 plus years college no degree	1	.5	.5	95.8
Finishing an aviation degree now.	1	.5	.5	96.2
GED & Several College Courses/Certificate Classes	1	.5	.5	96.7
High School Graduate / Vocational School Graduate / Factory Trained Professional	1	.5	.5	97.2
High School, most of AS credits, trade school certs.	1	.5	.5	97.7
Some College	1	.5	.5	98.1
Some college and vocational	1	.5	.5	98.6
US Coast Guard Chief Enr.Lic.	1	.5	.5	99.1
Vocational & some college	1	.5	.5	99.5
working toward associates	1	.5	.5	100.0
Total	213	100.0	100.0	

Appendix L: LPI Survey Results

I set a personal example of what I expect from others.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Seldom	1	.5	.5	.5
	Once in a While	1	.5	.5	.9
	Occasionally	1	.5	.5	1.4
	Sometimes	2	.9	.9	2.3
	Fairly Often	7	3.3	3.3	5.6
	Usually	43	20.2	20.2	25.8
	Very Frequently	68	31.9	31.9	57.7
	Almost Always	89	41.8	41.8	99.5
	Prefer not to respond	1	.5	.5	100.0
	Total	213	100.0	100.0	

I talk about future trends that will influence how our work gets done.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely	2	.9	.9	.9
	Once in a While	5	2.3	2.3	3.3
	Occasionally	9	4.2	4.2	7.5
	Sometimes	15	7.0	7.0	14.6
	Fairly Often	23	10.8	10.8	25.4
	Usually	39	18.3	18.3	43.7
	Very Frequently	77	36.2	36.2	79.8
	Almost Always	42	19.7	19.7	99.5
	Prefer not to respond	1	.5	.5	100.0
	Total	213	100.0	100.0	

I seek out challenging opportunities that test my own skills and abilities.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Once in a While	2	.9	.9	.9
	Occasionally	1	.5	.5	1.4
	Sometimes	12	5.6	5.6	7.0
	Fairly Often	20	9.4	9.4	16.4
	Usually	35	16.4	16.4	32.9
	Very Frequently	81	38.0	38.0	70.9
	Almost Always	62	29.1	29.1	100.0
	Total	213	100.0	100.0	

I develop cooperative relationships among the people I work with.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Almost Never	1	.5	.5	.5
	Occasionally	1	.5	.5	.9
	Sometime	2	.9	.9	1.9
	Fairly Often	15	7.0	7.0	8.9
	Usually	33	15.5	15.5	24.4
	Very Frequently	78	36.6	36.6	61.0
	Almost Always	83	39.0	39.0	100.0
	Total	213	100.0	100.0	

I praise people for a job well done.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Once in a While	1	.5	.5	.5
	Occasionally	2	.9	.9	1.4
	Sometimes	12	5.6	5.6	7.0
	Fairly Often	20	9.4	9.4	16.4
	Usually	33	15.5	15.5	31.9
	Very Frequently	75	35.2	35.2	67.1
	Almost Always	70	32.9	32.9	100.0
	Total	213	100.0	100.0	

I spend time and energy making certain that the people I work with adhere to the principles and standards that we have agreed on.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely	1	.5	.5	.5
	Seldom	1	.5	.5	.9
	Once in a While	4	1.9	1.9	2.8
	Occasionally	2	.9	.9	3.8
	Sometimes	13	6.1	6.1	9.9
	Fairly Often	24	11.3	11.3	21.1
	Usually	45	21.1	21.1	42.3
	Very Frequently	70	32.9	32.9	75.1
	Almost Always	53	24.9	24.9	100.0
	Total	213	100.0	100.0	

I describe a compelling image of what our future could be like.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Almost Never	2	.9	.9	.9
	Rarely	2	.9	.9	1.9
	Seldom	6	2.8	2.8	4.7
	Once in a While	12	5.6	5.6	10.3
	Occasionally	10	4.7	4.7	15.0
	Sometimes	19	8.9	8.9	23.9
	Fairly Often	14	6.6	6.6	30.5
	Usually	53	24.9	24.9	55.4
	Very Frequently	71	33.3	33.3	88.7
	Almost Always	23	10.8	10.8	99.5
	Prefer not to respond	1	.5	.5	100.0
	Total	213	100.0	100.0	

I challenge people to try out new and innovative approaches to their work.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Almost Never	1	.5	.5	.5
	Rarely	3	1.4	1.4	1.9
	Seldom	1	.5	.5	2.3
	Once in a While	6	2.8	2.8	5.2
	Occasionally	13	6.1	6.1	11.3
	Sometimes	18	8.5	8.5	19.7
	Fairly Often	20	9.4	9.4	29.1
	Usually	38	17.8	17.8	46.9
	Very Frequently	73	34.3	34.3	81.2
	Almost Always	40	18.8	18.8	100.0
	Total	213	100.0	100.0	

I actively listen to diverse points of view.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Once in a While	1	.5	.5	.5
	Occasionally	3	1.4	1.4	1.9
	Sometimes	8	3.8	3.8	5.6
	Fairly Often	19	8.9	8.9	14.6
	Usually	35	16.4	16.4	31.0
	Very Frequently	76	35.7	35.7	66.7
	Almost Always	71	33.3	33.3	100.0
	Total	213	100.0	100.0	

I make it a point to let people know about my confidence in their abilities.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Almost Never	1	.5	.5	.5
	Rarely	1	.5	.5	.9
	Seldom	2	.9	.9	1.9
	Once in a While	6	2.8	2.8	4.7
	Occasionally	6	2.8	2.8	7.5
	Sometimes	15	7.0	7.0	14.6
	Fairly Often	28	13.1	13.1	27.7
	Usually	37	17.4	17.4	45.1
	Very Frequently	73	34.3	34.3	79.3
	Almost Always	44	20.7	20.7	100.0
	Total	213	100.0	100.0	

I follow through on the promises and commitments that I make.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Once in a While	1	.5	.5	.5
	Sometimes	3	1.4	1.4	1.9
	Fairly Often	12	5.6	5.6	7.5
	Usually	27	12.7	12.7	20.2
	Very Frequently	57	26.8	26.8	46.9
	Almost Always	113	53.1	53.1	100.0
	Total	213	100.0	100.0	

I appeal to others to share an exciting dream of the future.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Almost Never	2	.9	.9	.9
	Rarely	3	1.4	1.4	2.3
	Seldom	5	2.3	2.3	4.7
	Once in a While	8	3.8	3.8	8.5
	Occasionally	4	1.9	1.9	10.3
	Sometimes	30	14.1	14.1	24.4
	Fairly Often	12	5.6	5.6	30.0
	Usually	48	22.5	22.5	52.6
	Very Frequently	68	31.9	31.9	84.5
	Almost Always	32	15.0	15.0	99.5
	Prefer not to respond	1	.5	.5	100.0
	Total	213	100.0	100.0	

I search outside the formal boundaries of my organization for innovative ways to improve what we do.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely	3	1.4	1.4	1.4
	Seldom	3	1.4	1.4	2.8
	Once in a While	5	2.3	2.3	5.2
	Occasionally	8	3.8	3.8	8.9
	Sometimes	27	12.7	12.7	21.6
	Fairly Often	17	8.0	8.0	29.6
	Usually	32	15.0	15.0	44.6
	Very Frequently	87	40.8	40.8	85.4
	Almost Always	31	14.6	14.6	100.0
	Total	213	100.0	100.0	

I treat others with dignity and respect.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Sometimes	2	.9	.9	.9
	Fairly Often	7	3.3	3.3	4.2
	Usually	22	10.3	10.3	14.6
	Very Frequently	51	23.9	23.9	38.5
	Almost Always	130	61.0	61.0	99.5
	Prefer not to respond	1	.5	.5	100.0
	Total	213	100.0	100.0	

I make sure that people are creatively rewarded for their contributions to the success of our projects.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Almost Never	1	.5	.5	.5
	Seldom	3	1.4	1.4	1.9
	Once in a While	5	2.3	2.3	4.2
	Occasionally	5	2.3	2.3	6.6
	Sometimes	20	9.4	9.4	16.0
	Fairly Often	19	8.9	8.9	24.9
	Usually	52	24.4	24.4	49.3
	Very Frequently	67	31.5	31.5	80.8
	Almost Always	37	17.4	17.4	98.1
	Prefer not to respond	4	1.9	1.9	100.0
	Total	213	100.0	100.0	

I ask for feedback on how my actions affect other people's performance.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Almost Never	3	1.4	1.4	1.4
	Rarely	7	3.3	3.3	4.7
	Seldom	10	4.7	4.7	9.4
	Once in a While	4	1.9	1.9	11.3
	Occasionally	12	5.6	5.6	16.9
	Sometimes	23	10.8	10.8	27.7
	Fairly Often	16	7.5	7.5	35.2
	Usually	34	16.0	16.0	51.2
	Very Frequently	69	32.4	32.4	83.6
	Almost Always	34	16.0	16.0	99.5
	Prefer not to respond	1	.5	.5	100.0
	Total	213	100.0	100.0	

I show others how their long-term interests can be realized by enlisting in a common vision.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Almost Never	5	2.3	2.3	2.3
	Rarely	7	3.3	3.3	5.6
	Seldom	8	3.8	3.8	9.4
	Once in a While	6	2.8	2.8	12.2
	Occasionally	7	3.3	3.3	15.5
	Sometimes	27	12.7	12.7	28.2
	Fairly Often	16	7.5	7.5	35.7
	Usually	42	19.7	19.7	55.4
	Very Frequently	70	32.9	32.9	88.3
	Almost Always	24	11.3	11.3	99.5
	Prefer not to respond	1	.5	.5	100.0
	Total	213	100.0	100.0	

I ask "What can we learn?" when things don't go as expected.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Almost Never	1	.5	.5	.5
	Rarely	1	.5	.5	.9
	Seldom	1	.5	.5	1.4
	Once in a While	4	1.9	1.9	3.3
	Occasionally	4	1.9	1.9	5.2
	Sometimes	9	4.2	4.2	9.4
	Fairly Often	22	10.3	10.3	19.7
	Usually	39	18.3	18.3	38.0
	Very Frequently	67	31.5	31.5	69.5
	Almost Always	65	30.5	30.5	100.0
	Total	213	100.0	100.0	

I support the decisions that people make on their own.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Once in a While	1	.5	.5	.5
	Sometimes	13	6.1	6.1	6.6
	Fairly Often	33	15.5	15.5	22.1
	Usually	61	28.6	28.6	50.7
	Very Frequently	65	30.5	30.5	81.2
	Almost Always	40	18.8	18.8	100.0
	Total	213	100.0	100.0	

I publicly recognize people who exemplify commitment to shared values.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Almost Never	1	.5	.5	.5
	Seldom	4	1.9	1.9	2.3
	Once in a While	5	2.3	2.3	4.7
	Occasionally	3	1.4	1.4	6.1
	Sometimes	21	9.9	9.9	16.0
	Fairly Often	33	15.5	15.5	31.5
	Usually	40	18.8	18.8	50.2
	Very Frequently	54	25.4	25.4	75.6
	Almost Always	48	22.5	22.5	98.1
	Prefer not to respond	4	1.9	1.9	100.0
	Total	213	100.0	100.0	

I build consensus around a common set of values for running our organization.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Almost Never	2	.9	.9	.9
	Rarely	2	.9	.9	1.9
	Seldom	8	3.8	3.8	5.6
	Once in a While	4	1.9	1.9	7.5
	Occasionally	5	2.3	2.3	9.9
	Sometimes	16	7.5	7.5	17.4
	Fairly Often	24	11.3	11.3	28.6
	Usually	43	20.2	20.2	48.8
	Very Frequently	76	35.7	35.7	84.5
	Almost Always	30	14.1	14.1	98.6
	Prefer not to respond	3	1.4	1.4	100.0
	Total	213	100.0	100.0	

I paint the "big picture" of what we aspire to accomplish.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely	2	.9	.9	.9
	Seldom	5	2.3	2.3	3.3
	Once in a While	6	2.8	2.8	6.1
	Occasionally	6	2.8	2.8	8.9
	Sometimes	20	9.4	9.4	18.3
	Fairly Often	27	12.7	12.7	31.0
	Usually	42	19.7	19.7	50.7
	Very Frequently	61	28.6	28.6	79.3
	Almost Always	42	19.7	19.7	99.1
	Prefer not to respond	2	.9	.9	100.0
	Total	213	100.0	100.0	

**I make certain that we set achievable goals, make concrete plans, and
establish measurable milestones for the projects and programs that we work on.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely	4	1.9	1.9	1.9
	Seldom	5	2.3	2.3	4.2
	Once in a While	1	.5	.5	4.7
	Occasionally	7	3.3	3.3	8.0
	Sometimes	12	5.6	5.6	13.6
	Fairly Often	20	9.4	9.4	23.0
	Usually	42	19.7	19.7	42.7
	Very Frequently	80	37.6	37.6	80.3
	Almost Always	42	19.7	19.7	100.0
	Total	213	100.0	100.0	

I give people a great deal of freedom and choice in deciding how to do their work.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely	1	.5	.5	.5
	Seldom	2	.9	.9	1.4
	Once in a While	1	.5	.5	1.9
	Occasionally	8	3.8	3.8	5.6
	Sometimes	13	6.1	6.1	11.7
	Fairly Often	19	8.9	8.9	20.7
	Usually	51	23.9	23.9	44.6
	Very Frequently	77	36.2	36.2	80.8
	Almost Always	40	18.8	18.8	99.5
	Prefer not to respond	1	.5	.5	100.0
	Total	213	100.0	100.0	

I find ways to celebrate accomplishments.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely	8	3.8	3.8	3.8
	Seldom	5	2.3	2.3	6.1
	Once in a While	4	1.9	1.9	8.0
	Occasionally	5	2.3	2.3	10.3
	Sometimes	22	10.3	10.3	20.7
	Fairly Often	21	9.9	9.9	30.5
	Usually	58	27.2	27.2	57.7
	Very Frequently	66	31.0	31.0	88.7
	Almost Always	23	10.8	10.8	99.5
	Prefer not to respond	1	.5	.5	100.0
	Total	213	100.0	100.0	

I am clear about my philosophy of leadership.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely	1	.5	.5	.5
	Seldom	2	.9	.9	1.4
	Once in a While	3	1.4	1.4	2.8
	Occasionally	4	1.9	1.9	4.7
	Sometimes	10	4.7	4.7	9.4
	Fairly Often	25	11.7	11.7	21.1
	Usually	45	21.1	21.1	42.3
	Very Frequently	60	28.2	28.2	70.4
	Almost Always	63	29.6	29.6	100.0
	Total	213	100.0	100.0	

I speak with genuine conviction about the higher meaning and purpose of our work.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely	1	.5	.5	.5
	Seldom	2	.9	.9	1.4
	Once in a While	3	1.4	1.4	2.8
	Occasionally	4	1.9	1.9	4.7
	Sometimes	15	7.0	7.0	11.7
	Fairly Often	21	9.9	9.9	21.6
	Usually	46	21.6	21.6	43.2
	Very Frequently	75	35.2	35.2	78.4
	Almost Always	45	21.1	21.1	99.5
	Prefer not to respond	1	.5	.5	100.0
	Total	213	100.0	100.0	

I experiment and take risks, even when there is a chance of failure.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Almost Never	1	.5	.5	.5
	Rarely	2	.9	.9	1.4
	Seldom	8	3.8	3.8	5.2
	Once in a While	6	2.8	2.8	8.0
	Occasionally	10	4.7	4.7	12.7
	Sometimes	39	18.3	18.3	31.0
	Fairly Often	21	9.9	9.9	40.8
	Usually	34	16.0	16.0	56.8
	Very Frequently	61	28.6	28.6	85.4
	Almost Always	31	14.6	14.6	100.0
	Total	213	100.0	100.0	

I ensure that people grow in their jobs by learning new skills and developing themselves.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Seldom	1	.5	.5	.5
	Once in a While	6	2.8	2.8	3.3
	Occasionally	6	2.8	2.8	6.1
	Sometimes	13	6.1	6.1	12.2
	Fairly Often	28	13.1	13.1	25.4
	Usually	41	19.2	19.2	44.6
	Very Frequently	65	30.5	30.5	75.1
	Almost Always	50	23.5	23.5	98.6
	Prefer not to respond	3	1.4	1.4	100.0
	Total	213	100.0	100.0	

I give the members of the team lots of appreciation and support for their contributions.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Seldom	1	.5	.5	.5
	Once in a While	3	1.4	1.4	1.9
	Occasionally	8	3.8	3.8	5.6
	Sometimes	7	3.3	3.3	8.9
	Fairly Often	30	14.1	14.1	23.0
	Usually	34	16.0	16.0	39.0
	Very Frequently	67	31.5	31.5	70.4
	Almost Always	63	29.6	29.6	100.0
	Total	213	100.0	100.0	

Appendix M: UWES Survey Results

At my work, I feel bursting with energy.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely (Once a month or less)	2	.9	.9	.9
	Sometimes (A few times a month)	17	8.0	8.0	8.9
	Often (Once a week)	34	16.0	16.0	24.9
	Very Often (A few times a week)	111	52.1	52.1	77.0
	Always (Every day)	49	23.0	23.0	100.0
	Total	213	100.0	100.0	

I find the work that I do full of meaning and purpose.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Almost Never (A few times a year or less	2	.9	.9	.9
	Rarely (Once a month or less)	2	.9	.9	1.9
	Sometimes (A few times a month)	6	2.8	2.8	4.7
	Often (Once a week)	27	12.7	12.7	17.4
	Very Often (A few times a week)	83	39.0	39.0	56.3
	Always (Every day)	93	43.7	43.7	100.0
	Total	213	100.0	100.0	

Time flies when I'm working.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	1	.5	.5	.5
	Rarely (Once a month or less)	1	.5	.5	.9
	Sometimes (A few times a month)	3	1.4	1.4	2.3
	Often (Once a week)	22	10.3	10.3	12.7
	Very Often (A few times a week)	95	44.6	44.6	57.3
	Always (Every day)	91	42.7	42.7	100.0
	Total	213	100.0	100.0	

At my job, I feel strong and vigorous.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely (Once a month or less)	2	.9	.9	.9
	Sometimes (A few times a month)	9	4.2	4.2	5.2
	Often (Once a week)	34	16.0	16.0	21.1
	Very Often (A few times a week)	102	47.9	47.9	69.0
	Always (Every day)	66	31.0	31.0	100.0
	Total	213	100.0	100.0	

I am enthusiastic about my job.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely (Once a month or less)	2	.9	.9	.9
	Sometimes (A few times a month)	6	2.8	2.8	3.8
	Often (Once a week)	18	8.5	8.5	12.2
	Very Often (A few times a week)	86	40.4	40.4	52.6
	Always (Every day)	101	47.4	47.4	100.0
	Total	213	100.0	100.0	

When I am working, I forget everything else around me.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	6	2.8	2.8	2.8
	Almost Never (A few times a year or less	3	1.4	1.4	4.2
	Rarely (Once a month or less)	12	5.6	5.6	9.9
	Sometimes (A few times a month)	35	16.4	16.4	26.3
	Often (Once a week)	33	15.5	15.5	41.8
	Very Often (A few times a week)	74	34.7	34.7	76.5
	Always (Every day)	50	23.5	23.5	100.0
	Total	213	100.0	100.0	

My job inspires me.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	1	.5	.5	.5
	Rarely (Once a month or less)	4	1.9	1.9	2.3
	Sometimes (A few times a month)	18	8.5	8.5	10.8
	Often (Once a week)	25	11.7	11.7	22.5
	Very Often (A few times a week)	72	33.8	33.8	56.3
	Always (Every day)	93	43.7	43.7	100.0
	Total	213	100.0	100.0	

When I get up in the morning, I feel like going to work.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	2	.9	.9	.9
	Almost Never (A few times a year or less	2	.9	.9	1.9
	Rarely (Once a month or less)	3	1.4	1.4	3.3
	Sometimes (A few times a month)	12	5.6	5.6	8.9
	Often (Once a week)	19	8.9	8.9	17.8
	Very Often (A few times a week)	82	38.5	38.5	56.3
	Always (Every day)	91	42.7	42.7	99.1
	Prefer not to respond	2	.9	.9	100.0
	Total	213	100.0	100.0	

I feel happy when I am working intensely.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely (Once a month or less)	2	.9	.9	.9
	Sometimes (A few times a month)	6	2.8	2.8	3.8
	Often (Once a week)	23	10.8	10.8	14.6
	Very Often (A few times a week)	96	45.1	45.1	59.6
	Always (Every day)	86	40.4	40.4	100.0
	Total	213	100.0	100.0	

I am proud of the work that I do.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Almost Never (A few times a year or less	1	.5	.5	.5
	Rarely (Once a month or less)	1	.5	.5	.9
	Often (Once a week)	9	4.2	4.2	5.2
	Very Often (A few times a week)	69	32.4	32.4	37.6
	Always (Every day)	133	62.4	62.4	100.0
	Total	213	100.0	100.0	

I am immersed in my work.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	1	.5	.5	.5
	Rarely (Once a month or less)	1	.5	.5	.9
	Sometimes (A few times a month)	30	14.1	14.1	15.0
	Often (Once a week)	31	14.6	14.6	29.6
	Very Often (A few times a week)	82	38.5	38.5	68.1
	Always (Every day)	68	31.9	31.9	100.0
	Total	213	100.0	100.0	

I can continue working for very long periods of time.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely (Once a month or less)	1	.5	.5	.5
	Sometimes (A few times a month)	21	9.9	9.9	10.3
	Often (Once a week)	32	15.0	15.0	25.4
	Very Often (A few times a week)	78	36.6	36.6	62.0
	Always (Every day)	81	38.0	38.0	100.0
	Total	213	100.0	100.0	

To me, my job is challenging.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Almost Never (A few times a year or less	3	1.4	1.4	1.4
	Rarely (Once a month or less)	1	.5	.5	1.9
	Sometimes (A few times a month)	13	6.1	6.1	8.0
	Often (Once a week)	19	8.9	8.9	16.9
	Very Often (A few times a week)	67	31.5	31.5	48.4
	Always (Every day)	110	51.6	51.6	100.0
	Total	213	100.0	100.0	

I get carried away when I'm working.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	3	1.4	1.4	1.4
	Almost Never (A few times a year or less	6	2.8	2.8	4.2
	Rarely (Once a month or less)	7	3.3	3.3	7.5
	Sometimes (A few times a month)	57	26.8	26.8	34.3
	Often (Once a week)	27	12.7	12.7	46.9
	Very Often (A few times a week)	75	35.2	35.2	82.2
	Always (Every day)	38	17.8	17.8	100.0
	Total	213	100.0	100.0	

At my job, I am very resilient mentally.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely (Once a month or less)	1	.5	.5	.5
	Sometimes (A few times a month)	9	4.2	4.2	4.7
	Often (Once a week)	31	14.6	14.6	19.2
	Very Often (A few times a week)	104	48.8	48.8	68.1
	Always (Every day)	68	31.9	31.9	100.0
	Total	213	100.0	100.0	

It is difficult to detach myself from my job.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	7	3.3	3.3	3.3
	Almost Never (A few times a year or less	4	1.9	1.9	5.2
	Rarely (Once a month or less)	15	7.0	7.0	12.2
	Sometimes (A few times a month)	55	25.8	25.8	38.0
	Often (Once a week)	25	11.7	11.7	49.8
	Very Often (A few times a week)	65	30.5	30.5	80.3
	Always (Every day)	42	19.7	19.7	100.0
	Total	213	100.0	100.0	

At my work, I always persevere even when things do not go well.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely (Once a month or less)	1	.5	.5	.5
	Sometimes (A few times a month)	8	3.8	3.8	4.2
	Often (Once a week)	19	8.9	8.9	13.1
	Very Often (A few times a week)	76	35.7	35.7	48.8
	Always (Every day)	109	51.2	51.2	100.0
	Total	213	100.0	100.0	

Would you like to withdraw form this survey and not have your responses used in this study?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes you may use my responses	213	100.0	100.0	100.0